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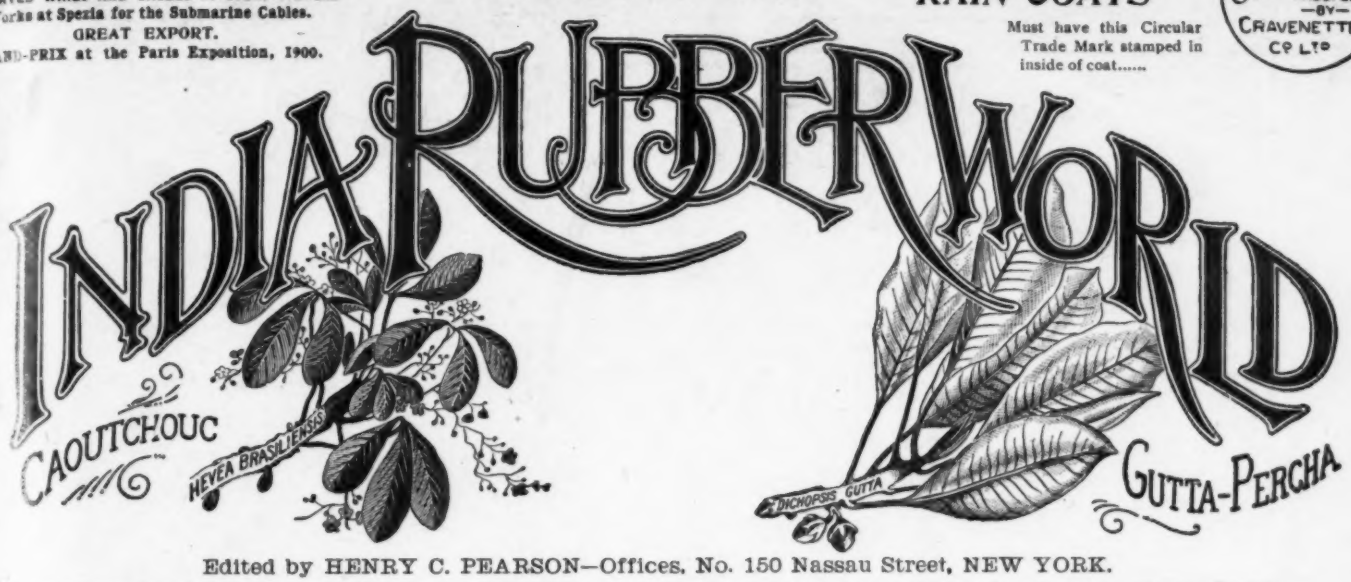

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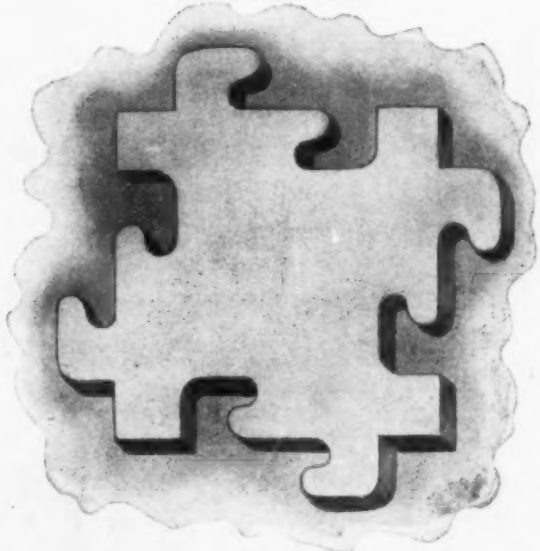

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THE CONDITION OF THE TRADE.

THE record of the past year in the India-rubber industry in the United States, on the whole, has been satisfactory. The demand for goods has been steady and in good volume, but without showing any advance over the best recent years, and in most branches the prices of products have been well maintained. The feature least satisfactory to the manufacturer has been the upward tendency in the cost of raw materials—of crude rubber, latterly, and of cotton and other goods throughout the year. The generally satisfactory condition of business has been favorable to the rubber trade, but the year has shown no such specially marked development in the various industrial branches as to create a larger demand than usual for rubber goods. In this respect the growth in the trade for two or three years past has not been duplicated Purchasers of large amounts of belting, hose, and the like, are desirous of making them last as long as possible, and the equipment of a given large new industrial plant is not repeated every year.

The considerable development in the mechanical rubber branch, keeping pace with improved industrial business conditions, which followed the last period of general depression, resulted in the establishment of a number of new rubber factories, so that to day the capacity of the industry is perhaps 25 per cent. in excess of the normal demand for products. In some instances a result of this condition has been a disposition to make concessions in prices, in order to capture trade, especially on the part of the newer establishments. This has been resisted, however, to the general advantage of the trade, by the more conservative companies, whose position in the matter has been strengthened by the increased cost of production due to advances in raw materials.

During the year there has been no further development in the consolidation of the industry in so far as the inclusion of other companies in the existing combinations is concerned. A feature not without interest to the trade as a whole has been the policy on the part of the consolidated company in the mechanical goods trade of unifying its management in each of the more important branches of production, which may be expected to produce better returns and place the company in a more stable position, with the general effect of steadying prices and lessening the pressure of competition—a result which will be no less helpful to the independent companies.

It is too early to comment in detail upon the rubber shoe trade, since the showing of the balance sheets of the manufacturing companies must depend upon the demand for footwear during the winter, the greater part of which is yet to come. It may be said, however, that production has been active since April 1, and manufacturers have had the benefit during much of this time of rubber at a lower cost than for three or four years past, while sales to the trade have been made on rather more favorable terms. Besides, the winter has opened well, from the rubber standpoint, rain and snow having fallen in most parts of the rubber shoe wearing belt in sufficient quantities to

stimulate buying on the part of the public. The factories in this branch are reported to have been unusually busy.

Lately has been developed a more general movement than at any time hitherto, on the part of organized labor, to bring the rubber workers of the country under the control of unions, but the greater diversity of work and wages in a given rubber plant than in many other industrial establishments is in itself a considerable obstacle to the unionizing of rubber workers and the stndardization of wages. Moreover, the movement seems to have had its inception, not in any expressed grievances of rubber factory employés, but in the minds of professional organizers on the outside, who evidently regard this, on account of the large number employed and the generally good standard of wages, as a ripe new field for their peculiar activities.

A FIFTH WHEEL NOT NEEDED.

THE proposal now being discussed seriously at Washington, to create a governmental department of commerce, appears to us to be very much in the nature of adding "a fifth wheel to a wagon"—a term widely used to describe an appendage that not only is useless, but is likely to get in the way and thereby impede progress. We are aware that the proposal has the support of men of prominence in business affairs and in political life, but this alone is not proof that the need exists for an additional arm of the government. Not all the so-called commercial organizations in the country can claim real merit—some of them exist only to promote personal ends, being ready to support any new movement if the names of their active members may thereby be brought into the newspapers.

It is probable, however, that the new measure has received the serious support of some business men because they believe that a department of commerce would help to extend our foreign trade, but it remains to be pointed out what services in this direction could be rendered by a secretary of commerce sitting in the president's cabinet better than by the existing official bureaus at Washington. In fact, all the claims made for the new department have been most vague and unconvincing, nor are the advocates of the measure agreed as to what powers should be given to the new secretary, or what he should be expected to accomplish. He could have no authority over the consular service, which is expected to be helpful to our commerce, because that in the nature of things belongs to our department of foreign affairs. Nor could he control the administration of the customs laws, which belongs to the treasury department, or negotiate commercial treaties, without vitally changing the federal constitution. In fact, the proposal now being considered involves little beyond creating a new office to which shall be turned over certain statistics now required by law to be collected by several different bureaus, in which event they doubtless would be made available for the public less promptly than now, on account of passing through more hands.

The manufacturers and others who look to the government, through the creation of new offices, to sell more of their products abroad, labor under a mistaken view of the laws of trade. At home, a manufacturer seeks first to produce an article suited to the needs of possible buyers; he then works to make them familiar with its merits; he next puts it where they can buy it, and if the price appears too high he manages to remove that objection, through decreasing the cost of production, eliminating middlemen's profits, or otherwise, but without once thinking of asking for help from the government. If the same manufacturer should desire to do business in Europe, or Corea, or Patagonia, precisely the same procedure would be necessary, and not one nor twenty new government departments could relieve him of the necessity of making his own markets if he would sell goods.

NOT SUCH A BAD SHOWING.

WE do not know anything in regard to Mr. Frederick J. Haskin beyond the fact that he has written to the Philadelphia *Record*, from Mexico, a long letter advising extreme caution in the matter of making investments in rubber planting in that country. THE INDIA RUBBER WORLD does not feel called upon to defend the rubber planting interest against all criticisms, nor has it ever urged anybody to plant rubber. Our reason for mentioning Mr. Haskin's letter is to suggest that the statement of results which he quotes as proving his case would be regarded by very many people who are interested in rubber as particularly encouraging. The quotation which follows was derived by Mr. Haskin from what he calls "an honest concern" doing business in Mexico, and he asserts that it "is based on facts":

> We sent a representative to make a tour of the cultivated rubber groves in Mexico that had been tapped and their products marketed. At a plantation near the town of Tuxtepec, on the gulf side of the state of Oaxaca, near the line of the state of Vera Cruz, the planter stated that he had tapped 350 of his trees and obtained from them 800 pounds of clean rubber for market. A few of these trees were planted twenty years ago and yielded as high as 12 pounds, but the most of them were from seven to nine years old and the average yield of the latter was two pounds of net rubber to the tree. Five months after being tapped these trees were in fine condition, the wounds in the bark being filled with the new wood so they will be ready to tap again next season.
>
> To prepare the rubber the sap was caught in buckets and poured out on the cement floor used for drying coffee. It was allowed to stand to a depth of two inches and left for several days to dry in the sun. It was then cut into long strips, rolled up into compact form, and shipped in this condition. The rubber netted the planter $1 per pound in silver.

The money value of the yield above stated was equal to only $312 in United States currency, and such an amount as a total result from planting 350 trees and waiting for from seven to nine years may not at first seem an attractive proposition. But if these trees were in the fine condition stated five months after tapping, and "ready to tap again next season," if the report means anything, it is that an equally good return—*i.e.*, a profit of $312, gold, from about two acres of land—may be expected again year after year, without any other expenditure than for the collection of the rubber. On the whole, the letter writer from Mexico, in the only statement of fact which he presents in support of his warning to Americans, does not

appear to us to make a very bad showing for rubber culture. The plantation referred to evidently is that of Señor Joaquin Jiminez, some details concerning which, in our issue of August last, were probably more accurate than those given by Mr. Haskin.

A NEW RUBBER SWINDLE.

WE give space this month to a contribution unusual for the pages of THE INDIA RUBBER WORLD, in that it involves a direct charge of fraud against a person named therein, and against whom no legal proceedings have been brought. We have been aware for some time that rubber manufacturers were being approached by the inventor of an alleged artificial India-rubber—showing samples which possessed value, but which were unquestionably composed of real rubber or largely so—with a view to obtaining money from them for the further development of its production. We are reliably informed, also, of considerable sums of money having been obtained from persons of the highest business standing, but without a practical knowledge of rubber or the rubber business, who were made to believe that this was a valuable product that could be manufactured at such a low cost as to promise very large profits. The author of the communication which we give space to is a gentleman of the highest standing, who, in his professional capacity, as a member of a leading legal firm in New York city, was called upon to take part in negotiations looking to the investment by some clients of capital in the alleged artificial rubber industry. In a note to the Editor, in addition to his letter which we print, Mr. Stayton writes: "My honest conviction, after a great deal of investigation, is that this process is a fraud, and that it is being used to swindle If I can do anything to prevent the public being deceived any further in the matter I should like to do so."

ONE MAY GAIN A LIVELY SENSE of the frugal nature of the Chinaman, at home, from a study of the new tariff schedule which, after so much discussion, has gone into effect in the Celestial empire. To illustrate the rigorous nature of the import duties, 20 *cash* must be paid on every pair of India-rubber shoes brought in from the outside barbarian world—20 *cash*, a sum too small to be expressed conveniently in the money of the United States. The duty on 1000 pairs of "rubbers" would be $12.62. Thrifty, indeed, are the people who concern themselves, in tariff making, with such minute computations. And here is a chance for Germany, where the makers of rubber footwear complain of the high tariff walls that keep their goods out of Russia and the United States, while the surplus production of these countries pours ceaselessly over the lower walls of the *Zollverein*. Sell rubbers in China! No high tariff laws there—a duty of less than 5½ *pfennige* a pair for rubbers, and more people than could be supplied with rubbers in a century.

SOME ITEMS OF MORE THAN USUAL INTEREST appear in our notes on rubber planting and exploitation this month. For instance, there is reported the formation of a company to plant *Hevea* rubber in Cuba, from seeds yielded by a number of trees brought to that island from Brazil a good while ago. Samples of rubber from these trees sent to THE INDIA RUBBER WORLD are very fine, indeed. The only criticism possible to make is that it is a little sour, owing to the fermentation of the albumen. If better coagulated or dried more quickly, this Cuban product, judged by these samples, ought to be equal to the best rubber now obtained from Pará. There is reported on another page the first importation of rubber from the Philippines into the United States, by a manufacturer who expects, from the character of the samples obtained by him from that quarter, to find the rubber of considerable value, in spite of somewhat unfavorable reports hitherto regarding the quality of Philippines rubber. Should he attain the results expected, it may lead to an important development of rubber production under the United States flag. Among new rubber planting companies mentioned is one organized as a joint stock company, pure and simple, instead of the sale of shares on the installment plan as has been the rule with planting companies formed in this country hitherto to operate in Mexico. The new plan appears to have merit, and may in time supersede the older procedure.

THE INDIA RUBBER WORLD HAS BEEN CAREFUL, as a rule, not to poke fun at its esteemed contemporaries, but where one is as far away as Canada and when it is as good and capable a publication as the *Canadian Shoe and Leather Journal*, it may not be risky to comment briefly on the description of making rubber shoes which appeared in its November issue, particularly as the article is commended by the writer to all shoe clerks who handle rubbers and who may thus be able to talk intelligently upon their production. The part of the article which has its touch of humor reads as follows (the italics being ours):

> The rubber which is to form the uppers is *coated* with a *tricotic tissue*, by passing through a *culendar;* that intended for the soles is passed through another *culendar*, and each of the other parts is also passed through a *culendar* - - - They are then varnished with *asphalt lacquer* and then *revulcanised* for seven or eight hours at a temperature of 260° F. The shoes are then ready to be sold.

Of course, this is mighty interesting to the shoe clerks, and if they could sell rubbers, the stock for which was run through a "culendar" (collander?), "lacquered with asphalt," and "revulcanized," they would be mighty good salesmen. But after all it does not make much difference what the shoe clerk knows of the details of manufacture if he has good rubbers and knows how to fit them. He might claim they were made in a churn and painted with black whitewash, and people would still continue to buy and would appreciate a good article when they got it.

AN EXPENSIVE AUTOMOBILE made to the order of the sultan of Turkey was on exhibition lately in Paris. It is not surprising to hear since that the number of the sultan's wives has been reduced 94 per cent. Presumably every one of the ladies of the imperial harem, on seeing the gorgeous new rubber tired vehicle, insisted on having one for herself, and not all the revenues of the empire would have been sufficient to buy so many. Funny, isn't it, that the invention of the automobile may be a means towards the abolition of polygamy?

THE STATE TAXING AUTHORITIES OF OHIO having decided that "good will" and "trade marks," when included in the assets of a corporation, are assessable, the same as any other property comprised in its capital account, the idea may be expected to find adoption in other states, with the effect of greatly discouraging any tendency to overcapitalization on the part of public companies.

DR. WEBER'S NEW BOOK ON INDIA-RUBBER.

THE CHEMISTRY OF INDIA RUBBER, INCLUDING THE OUTLINES of a Theory of Vulcanization. By Carl Otto Weber, PH.D. With four plates and several illustrations in the text. London: Charles Griffin & Co., Limited. 1902. [Cloth. 8vo. Pp. xii+314.]

THE appearance of a new work on India-rubber, and especially one on a comprehensive plan, from a competent pen, is so rare as almost to mark an epoch in the industry, and therefore deserves to be noticed at length in the columns of a journal devoted to the news of the trade. The author of the work under review has devoted many years to the subjects named in its title, in his capacity of chemist to important rubber factories, during which time he has been a prolific contributor to technical periodicals. It is of interest now to have in one volume a résume of his work bearing upon the nature of the process of vulcanization, and in the analysis of rubber and rubber goods.

Dr. Weber to some extent disarms criticism in a paragraph in his preface in which he distinctly says that manufacturing processes as such have not been dealt with, as to have done so would have resulted in the destruction of the unity and aim of the work. In other words, he has been content with writing a book that is theoretical and technical, dealing wholly with the chemistry of India-rubber, including the outlines of a theory of vulcanization. It is not the fault of the author that rubber manufacturers and their superintendents in most cases know little of chemistry, have a horror of theory, and only seek for an explanation of interesting phenomena when it appears profitable so to do. The author has evidently done an immense amount of work for the work's sake. In his enthusiasm as a scientist to solve the many intricate problems that the chemistry of India rubber suggests, the thought of cheapening compounds, or saving dollars for himself or anybody else, has not entered his mind. It must be said that he has produced a work that for a long time to come will be the standard, the world over, on the subjects of which it treats. It will be valuable and much appreciated in all technical schools; it will be helpful to chemists, particularly those whose profession touches the rubber trade; but it will be of very little use to the ordinary manufacturer or superintendent. The nine chapters in the book cover the chemistry of India-rubber, the examination of India-rubber substitutes, inorganic compounding materials, vulcanizers and sulphur carriers, coloring matters, constructive components of India-rubber articles, and the analysis of rubber articles.

To one who reads this work carefully, the impression comes with some force that the author is more familiar with mackintosh clothing, druggists' sundries, and hard rubber, than with some of the equally important lines, such as rubber footwear, mechanical rubber goods, and insulated wire, though this is evident only where he is led to generalize on manufacturing processes or results. For example, he says, in speaking of tar [page 268]: "As far as the author's experience goes, it tends to show that, at any rate in soft rubber goods, its use is of the rarest occurrence." Now rubber boots and shoes are certainly soft rubber goods, and a factory making 5000 pairs of rubber boots and shoes per day, would use about 400 pounds of tar. In the United States certainly 200,000 pairs of rubber boots and shoes are made daily, which would mean an annual use of 4,800,000 pounds of tar. Adding to this 200,000 pounds yearly for use in carriage cloth, surface clothing, melodeon cloth, and proofing, there is an annual consumption of 5,000,000 pounds, all used in soft rubber goods.

Then Dr. Weber claims [page 205] that undervulcanized articles are much more prone to decomposition than overvulcanized ones. It is an acknowledged fact that a rubber shoe which blooms is not vulcanized enough, and yet such a shoe will show a lasting quality and wear that is phenomenal. Again, our author says that chrome yellows cannot be used for hot cured goods, but behave very well in the cold cure process. One of the large rubber shoe factories in the United States makes a rubber boot on which is a bright yellow brand. This brand is made of rubber compounded with chrome yellow, a little oxide of zinc, a small percentage of sulphur, and is cured in an open heat for six or seven hours, at about 270° F.

The foregoing instances would lead one to imagine that the Doctor was not familiar with American processes in boot and shoe manufacture, which, indeed, he does not claim. Another thing that will strike the American manufacturer is the omission of any mention of palm oil, and only one mention of pontianak, which oil and gum have both made themselves indispensable in certain lines of mechanical compounding. On page 303, speaking of non-blooming goods, under (*b*), the condition is given: "Vulcanizing under such conditions that, at the end of the operation, all the free sulphur has disappeared." In commenting on this, further down the page, the author says: "Method (*b*) can only be used with goods vulcanized by the open cure, in which the sulphur vapors may freely pass off the vulcanizing goods." It is, however, well known in mechanical rubber mills that black mold work absolutely non-blooming can be and is made from stocks compounded for the open cure.

Not to attack another of Dr. Weber's theories, but simply to ask an explanation, we quote [page 118]: "It is at the present time often assumed that the percentage of resinous matter in India-rubber may be taken as an indication of the care bestowed upon its collection, coagulation, and preparation for the market in general. I have, however, satisfied myself that this view is not correct." Turning to page 122, we find in the very exhaustive tables there shown, the amount of resin in fine Pará, upriver, hard cure rubber, to be 1.3 per cent., while in negroheads, which is the same rubber, carelessly collected and coagulated, it is 6.7 per cent.; or the same as Cartagena rubber or Sierra Leone twist rubber. Whence the 5.4 per cent. extra resin?

It is of course only fair to say that few theories concerning the chemistry of India-rubber have yet been established, and that almost any practise that gives such results as to lay down laws for certain lines of work, and sometimes for certain factories, is absolutely reversed in other lines of work and in other factories. In drawing attention to the points above, it is not the writer's intention in any way to minimize the work which Dr. Weber has brought out. Indeed, we feel that the Doctor has not written hastily, or carelessly, and we doubt not that if answer comes from across the water each point will be most thoroughly elucidated. The writer, however, would like to inquire if, in the historical introduction of the story of vulcanization [page 41], where Dr. Weber says: "It was unquestionably Nelson Goodyear, who, in 1839 first definitely established the fact that the treatment of India-rubber with sulphur at high temperatures, etc.," he did not mean Charles Goodyear, rather than his brother Nelson, who came into prominence twelve years later, and then only as the patentee of hard rubber.

REGENERATION OF OLD RUBBER AND WASTE RUBBER.*

By L. Edgar Andés.

UNDER the name of "old rubber" are included all the rubber articles of any kind whatsoever, which have been in use and can no longer serve their purpose, and hence are to be discarded and destroyed. While these almost worthless waste products, for such they must be designated, did not serve, twenty years ago, any other purpose than to be burned up, a number of uses have since been found for them, and their value varies, according to condition and purity, from 1 to 6 marks per kilogram [= 11 to 65 cents per pound], so that the collecting and sorting pays tolerably well. The utilization of the products is not such that they are subjected directly to a regeneration process, but rather they are used in the cleaned and reduced state for intermixing. The manufacturing waste proper, such as unvulcanized rubber, the so-called clippings, etc., however, because they are of good quality, are generally used in the manufacture in place of the cheap kinds of crude rubber; they are not resinous, rather elastic, and do not become porous as soon as inferior crude rubber, besides which the washing and attendant losses are avoided. The natural colored clippings have a higher value than the colored ones, which latter cannot be employed for all purposes; but they are not frequently met with, as they are generally worked up again in the factories.

The main bulk of the scrap rubber, however, results from vulcanized rubber and from hard rubber, the former being distinguished as follows: (1) Scrap with fillings, and (2) scrap without fillings. These in turn are divided into floating and non-floating—*i. e.*, with or without weighting or other admixtures.

The following are counted among scrap with filling: Playing balls, usually with a hard and fissured inside rubber layer caused by ammonia, which have to be boiled out very carefully; balls from surgical instruments, atomizers, etc., as well as all the various gray and red rubber articles used in surgery; also, toys, dolls, pump valves, pressed plates, centrifugal pads, rubber hose, discs, bandsaw covers, bicycle and other tires, roller coverings, etc.

Among the items of waste of this kind of inferior value are; Plates and other technical articles, rubber erasers, irrigator tubing, rings of every description, oil valves, etc. Furthermore, there are scraps from rain coats, whose linings of fabric are pulled off mechanically or destroyed by acids; and old rubber shoes, which, especially in America, are valued as an admixture. Rubber lined linen and cotton hose, vulcanized and unvulcanized, and rubber coated asbestos fabric scrap, freed from wires and brass tissues, are also readily sold.

To accomplish a rational utilization, the floating scrap and such as sink only after remaining in the water for some time, has to be separated in this case; also the different colors, which are assorted into gray and variegated. The floating scrap without filling—that is, such as contain only crude rubber and sulphur—has a specific gravity from 0.99 to 1.0; but there are also floating scraps which are mixed with rubber substitutes or with boiled out floating waste. Among the floating scraps are hose and rings of every description, valves, roller coverings, boundary straps, Pará products, billiard cushions, thread waste from rubber weaving, etc.

The floating waste must be elastic and must, drawn out to a certain length, re-assume its former condition, and not bend or be brittle. Among the semi-floating waste are pneumatic covers pulled off from the layer of fabric, nipples, gloves, surgical patent rubber goods, rubber dress shields, imitation patent plates, and articles made from them. The value of this waste is less because the quality suffers through the chlorine in vulcanizing and, in the case of patent rubber, admixtures of artificial rubber are frequent. The specific gravity of the semi floating scrap is 1.0 to 1.10 as the maximum; if lying for a long time in water the scrap becomes spongy, soft, or sticky, and then sinks to the bottom.

The hard rubber scrap furnishes a large contingent, but, owing to the foreign admixtures (pumice stone, chalk, magnesia, soapstone, talcum, and heavy spar) it is of inferior value. Scraps from electrotechnical factories and electrical works are of good quality, have a smooth, not rough, black fracture, are glossy, can be pulverized, and, if used along with other rubber, are susceptible of a polish.

For the purpose of utilization, the hard rubber scrap is first broken up by means of a rolling balls grinding mill and then, for further reduction, conveyed to the disintegrator. The product of the latter is finely ground by means of rollers and sifted; then the coarser particles are again treated, and finally the fine product of the grinding is blown into a dust chamber, where it deposits in different degrees of fineness, owing to its varying gravity, and is freed from adhering iron particles by means of magnet apparatus. The waste of the various assortings is chiefly used in the Caoutchouc industry, for insulating substances, in the varnish manufacture, in the production of emery discs, etc., and the treatment to which they are subjected after the assorting and mechanical cleaning is mainly that of removing the adhering and absorbed acids, the salts etc., and the separation of free sulphur. The scrap is generally washed for some time, under great pressure, with caustic soda lye or hydrochloric and sulphuric acids, respectively, and then treated further with clean water. The object is the removal of the free sulphur, while the bound sulphur remains in the mass.

Although the cleansing of vulcanized Caoutchouc by complete removal of the sulphur has been repeatedly tried and a number of patents have latterly been taken out for such processes, success has not yet been achieved in performing the desulphuration in a really rational manner.

By the reclaiming process of Dr. Wimmer a rubber is said to be obtained which is free from all odor and possesses the entire elasticity of the former article. Ground or finely cut old rubber reduced as finely as possible is heated with about the same weight of castor oil to a temperature of 180° C., to at most 210° C.,† until dissolved. After cooling, this solution is poured with constant stirring into double the volume of 90 per cent. spirit. The rubber dissolved in the oil will then separate in the form of a tough mass, while the castor oil remains dissolved in the alcohol. The liquid is separated from the rubber and the latter is repeatedly washed with a small quantity of fresh spirit. As the rubber still contains plenty of spirit, it is washed with warm water to which some soda lye is added and finally with pure water.

Hudson Marks, of Akron, subjects rubbed up or reduced

* Translated for THE INDIA RUBBER WORLD, from *Neueste Erfindungen und Erfahrungen*, Vienna. XXIX-6 (1902), pp. 243-245.

† =356° F. and 410° F.

Caoutchouc scraps, with dilute alkali solution—for example, a 3 per cent. caustic lye solution—to the action of great heat, for instance, 173.5° C., for some time, say 20 hours, in a closed receptacle. The finely disintegrated (ground or rubbed up) rubber waste is placed in a suitable vessel with diluted alkali solution (3 per cent. caustic soda solution) in sufficient quantity to penetrate the rubber and cover it. The vessel is closed, heated to about 173.5° C. by means of steam and the temperature is maintained for 20 hours. The smaller the quantity of sulphur contained in the rubber, the less heat and the shorter a time of action of same is required. For a practical process aiming at the reclaiming of vulcanized rubber scraps of various origin such as occur in commerce, the temperature of 173.5° C. (equal to the temperature of steam at 8.8 atmospheres) has been found suitable for a duration of 20 hours. Devulcanization and at the same time destruction of the texture which contains the scraps is thereby accomplished. The product is washed out perfectly to remove the lye. Tolerably good results are obtained with rubber containing a slight percentage of sulphur, at a steam pressure of 6.3 atmospheres. Very good results were obtained with 12.3 atmospheres.

One of the processes mostly in use for the regeneration of old rubber consists in treating it, in the ground state, with soda lye, under pressure, then washing twice thoroughly, and drying in the vacuum. The object of the washing on the cylinders, etc., is to eliminate the lye. The carefully dried waste is mixed with 5 to 10 per cent. benzol or mineral oil on cold rollers and then steamed under pressure for some hours at 4 atmospheres; the product obtained is worked out between cylinders and mingled with the various mixtures of rubber. The boiling of the ground waste with rosin oil has been abandoned entirely, because the product obtained was found to be smeary, irregular and partially permeated with hard pieces.

Floating scrap, and especially scrap from elastic threads, is finely ground and mixed with 20 per cent. benzol, pressed hydraulically in cylinder molds; these closed molds are vulcanized 6 hours in boiling sulphur at 145 to 150° C., whereupon the somewhat viscuous product is rolled out into sheets.

* * *

THE foregoing article shows in a marked degree the status of the business of reclaiming rubber in Germany, and as viewed by a distinguished Teutonic expert. In many portions the statements will not coincide with the experience of the English and Americans. Scrap prices which vary from 11 to 65 cents a pound will be a stumbling block to all but the most credulous, but need not after all be taken as serious market quotations. The inference that old boots and shoes are of little value abroad is also a bit off the track. The article, however, is interesting and worth the space which it occupies in these pages —THE EDITOR.

RUBBER PLANTING AND EXPLOITATION.

YIELD OF A "PARA RUBBER" TREE IN PENANG.

A RUBBER tree from Pará seed in the Waterfall botanic garden, Penang (Malay states), now 17 years old, has had seven tappings, beginning in June, 1897, the total yield from which, in dry rubber, is herewith stated in detail, as reported by Mr. C. Curtis, superintendent of the garden, to the Straits *Agricultural Bulletin*. The aggregate is 18 pounds 7¼ ounces; an average per tapping of 2 pounds 10.18 ounces, or an average per year of 3 pounds 1.21 ounces. The system of tapping is thus described: A small perpendicular channel is cut in the bark about a foot in length and ⅛ inch broad, but not deep enough to obtain much *latex*, its object being merely to conduct the *latex* to a tin receptacle fastened at its base. This channel is not subsequently enlarged or interferred with. Two or three incisions are then cut on either side, leading obliquely to this channel to supply this *latex*. From the upper side of each of these a thin shaving of bark is removed every morning, or on alternate mornings, which causes a fresh flow of *latex*. In each of these seven tappings a thin shaving has been removed thirteen times, which, with the initial cutting, makes fourteen operations, the whole constituting what Mr. Curtis calls one tapping. Thus the number of times this tree has been operated upon is 7 × 14=98, and average amount of dry rubber from each operation about 3 ounces. The daily amount, however, varies very much, the yield from the first two or three operations each season being almost *nil*. No attempt was made, until the last tapping, to save such rubber as may have been removed with the shavings of bark referred to, and this, Mr. Curtis thinks, would be an important item in a large plantation. A plain carpenter's chisel is considered better than a special tapping tool sent to Mr. Curtis, because a finer edge can be kept on it, and the sharper the implement the better the flow and the less the loss by coagulation in the cuts.

DATES.		Lbs.	Oz.
June,....	1897	1	0
Nov.-Dec..	1898	3	0
April-May.	1899	2	8
Nov.-Dec .	1899	3	4
Oct.-Nov .	1900	3	12
Aug.-Sept.	1901	2	2
Oct.-Nov..	1901	2	13.25
Total.....		18	7.25

PLAN OF INCISIONS.

This tree resulted from seed planted in the Singapore botanic garden in 1885, and was one of a dozen transplanted in Penang early in 1886. It was selected for the series of tapping experiments on account of being the largest in the group. "It is not pretended that the result of tapping the tree is of great value as a guide to the results to be obtained from a large number, for we now know," says Superintendent Curtis, "that there is a great dissimilarity in the yield of trees of equal size growing side by side and under exactly similar conditions. The interest in this particular tree, then, is that it has been tapped six times . . . that it shows no sign of deterioration, that the incisions made are all healed up, and that the total yield of dry rubber during that period" is as stated. Two years ago this tree was 55 feet high and 66 inches in girth at three feet from the ground. At 3½ feet from the ground the tree branched into two stems, with a girth respectively of 44 inches and 34 inches, five feet above the ground.

AN OFFICIAL VIEW OF RUBBER CULTURE.

THE annual report of the United States secretary of agriculture for the year ended June 30, 1902, says:

"It is generally supposed that a continuously humid climate is necessary for rubber culture, but in southern Mexico it is obvious that an alternation of distinct wet and dry seasons is favorable to the production of rubber by *Castilloa*, which will permit a much wider use of this tree in our tropical islands than has appeared possible hitherto. The failure of some of the earlier experiments may be ascribed to planting in situations too uniformly moist. The tree will often grow luxuriantly where it will produce little or no rubber, as many planters have learned to their cost. Rubber is the most important vegetable raw material now imported for manufacture in the United States. The agricultural production of rubber is assured, and

several millions of capital from the United States have been invested already in Mexican rubber plantations. The extent, however, to which these and similar enterprises in other countries can be made profitable depends on the solution of many new agricultural problems."

FAILURE OF "CASTILLOA" IN KAMERUN.

THE annual report of the Moliwe Plantation Co., presented at the annual meeting at Hamburg on October 14, contains the following reference to the company's experience with rubber in the German colony of Kamerun:

"The culture of the *Castilloa* rubber tree is to be described a failure, because these trees, which otherwise thrive so excellently, have been destroyed entirely, with the exception of a few trees, by bore worms, and at the end of the year embraced in the report only 950 trees remained standing; the culture, for the time being, will not be extended. The *Kickxia* rubber tree, which is at home in Kamerun, seems to thrive especially well, an area of 13 hectares [= 33 acres] has been planted with 4720 trees; it is used also as shade for cacao, and planted along the banks of streams and ditches and by the side of roads. Experiments are also to be made with *Ficus elastica* and Gutta-percha plants originating from the south sea colonies, where they were planted by the botanist Schlechter in charge of the expedition inaugurated by the colonial agricultural committee."

The Moliwe company was formed in Hamburg, in 1899, with a capital of 1,100,000 marks, to plant cacao and rubber in the colony named above. At one time it was planned to cultivate *Castilloa* extensively, and one shipment of 400,000 seeds of this species was obtained from Costa Rica. A large number of these, however, were spoiled in shipment.

RUBBER PLANTATIONS IN COSTA RICA.

THE following list of plantations of rubber (*Castilloa elastica*) existing in the San Carlos valley of Costa Rica in April, 1902, has been supplied to the *Tropical Agriculturist* by Ed. Coles:

	ACRES.
Umfried & Schloch, at the head of Tabla grande; begun 4 years ago	98.840
Hoppenstadt & Gillett, in Banco de la China; planted 6 years.	7.413
A. Long, below mouth of Arenal river; planted various times since 1897	91.427
Mercedes Queseda; planted 6 years	14.826
Kotelmann & Heynsohn; planted 6 years	14.826
Theodore F. Koschny; planted 1 and 2 years	64.246
Mr. Koschny and others, in Caño Negro; 1 year old	9.884
A. Long, in Caño Negro; 1 year old	14.826
Carl Grutzmacher, in Caño Negro; 3 years old	9.884
Total	326.172

[Costa Rican lands are measured in hectares, converting which into acres gives the somewhat unusual fractions appearing in the above table.]

Besides the above, Max Bergmann is mentioned as having several hundred trees planted in Caño Negro, 1 and 3 years old. Also, Mr. Koschny was preparing to plant 39½ acres more on his own estate, and in connection with other parties in Caño Negro was planting in the spring 247 acres, and making plans to plant 865 acres later. Mr. Long was also mentioned as planning an additional planting of 74 acres, and an American family named Hogan were preparing to plant largely at the mouth of the Tres Amigos river. The San Carlos river, by the way, discharges into the San Juan, which separates Costa Rica from Nicaragua, and forms part of the projected Nicaragua canal route. Mr. Coles suggests that in the event of the construction of this canal the San Carlos region would be settled rapidly, while the discarding of this route would lead some of those already on the ground to move away.

IMPORTATION OF RUBBER IN THE PHILIPPINES.

THE illustration on this page has been derived from a photograph taken in the town of Zamboanga, island of Mindanao, representing the first shipment of native rubber from that port to the United States. The rubber contained in the cases shown is undoubtedly the product of the *Ficus elastica* and is very similar to Assam rubber. It has very likely been collected and shipped for years by Chinese traders, and its diversion to the United States shows a typical bit of American enterprise. It seems that several employés of the Bowers Rubber Co. enlisted to serve in the army in the Philippines and while there saw the rubber and communicated to the president of the Bowers Rubber Co. a report on the collection of the rubber and its sale. The enterprising president of the company immediately sent his own agent to the Philippines, got samples of the rubber, and had shipments started at once for San Francisco.

INDIA-RUBBER IN THE PHILIPPINES.

THE MEXICAN GOVERNMENT AND RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am informed by a man interested in rubber growing in Mexico that the Mexican government decided recently to go out of the rubber business—*i. e.*, that it had decided to give up its experiment stations, or something to that effect; that it was satisfied that the climate or something else vital was not quite right. They could grow the trees, but when it came to the yield, the showing was not satisfactory. I wish to ask you for the facts in the case. I am very much interested in this business financially as well as otherwise.

F. W. B.

Chicago, Illinois, December 23, 1902.

WE have never heard before that the Mexican government had gone into the rubber business, or had established experiment stations in connection with rubber. Such planting of rubber as has been done in Mexico, has been done by foreigners, using their own capital, and while most of the trees

planted to date are too young to yield rubber, such trees as have become productive seem to have given such satisfactory results as to encourage more extensive planting.

RUBBER IN FORMOSA.

RUBBER trees are supposed to exist on the island of Formosa, which was acquired by Japan from China as a result of the war between those countries a few years ago. In fact, there is some definite evidence on this point. For example, the United States consul general at Calcutta, Mr. Samuel Merritt, reported in 1890 that Major J. A. Betts, "while an officer in the Chinese army, explored the large islands of Formosa and Hainan, and found the forests filled with untouched *Ficus elastica*." Mr. Shizuo Kondo, of Tokio, informs THE INDIA RUBBER WORLD that, in connection with the building up of a rubber industry in Japan, much interest is felt now in the possibility of obtaining rubber in Japanese territory. "The systematic study of the resources of Formosa is now being carried on by our government," says Mr. Kondo, "very much as the United States is doing in the Philippines, and we hope to find rubber there to an important extent."

RESULT OF TAPPING YOUNG TREES.

DR. WALTER L. HALL, of San Juan Evangelista, Vera Cruz, Mexico, writes to *Modern Mexico* that 400 rubber trees (*Castilloa elastica*) on his plantation 3½ and 4½ years old (as they came), tapped by a native with a *machete*, gave 44 pounds of dry rubber, or about 1¾ ounces per tree. Thirty trees 4½ years old tapped in the same way gave 2 ounces per tree. Fifty trees 3½ years old gave 1½ ounces per tree. A wild tree 15 inches in diameter yielded 2½ gallons of *latex*, which made 8 pounds 2 ounces of dry rubber without injury to the tree. Dr. Hall says that the quality of the rubber appears to be the same, whether the *latex* is coagulated with "amole" or by simply drying, but the former is more expeditious. He says that the best time for tapping is from November to February.

MEXICAN MUTUAL PLANTERS' CO.

[Plantation: La Junta, state of Vera Cruz. Offices: New York Life building, Chicago.]

No. 9 of *The La Junta Planter* (the company's bulletin) states that the whole of the issue of the bonds offered to the public—3700—has been sold, 30 per cent. of them having been taken by the shareholders. The bondholders' committee of investigation will leave Chicago for the plantation in February. Two-thirds of the area designed for rubber has been planted, now embracing over 1,000,000 trees. The company state: "We are often asked at what age we can safely tap rubber trees. We are of the opinion that size and maturity of the wood, not the age, will regulate the tapping period, and that while an occasional tree five years of age and a large number at eight years, grown in the sun, may be safely tapped, few that are planted in shade will be large enough to tap in fifteen years, some not for twenty-five years, and many will not attain sufficient growth in a generation."

EDUCATING MEXICAN INDIANS TO WORK.

MR. FRED L. TORRES, of the executive staff of the Consolidated Ubero Plantations Co., engaged in rubber culture on the isthmus of Tehuantepec, says that the most important inducement to labor which he has found for the native Indians—their main dependence for plantation work—is the company's store. When the Ubero companies began operations, the natives in that district still dressed in primitive style, and had no wants beyond their daily food. But the display in the store of gaily colored clothing, ornaments, and trinkets has developed among the natives a desire for those things, and now both men and women willingly work full time in order to gratify tastes to which, a few years ago, they were strangers. The constant new developments on the isthmus, Mr. Torres says, will ere long call for more than the native supply of labor, when it is anticipated that Chinese can be imported to meet every want.

PRIVATE RUBBER PLANTING IN MEXICO.

THE newspaper *Modern Mexico* believes that "the best evidence that cultivating rubber will become a profitable business in Mexico is not the number of companies that have been formed in the United States to plant rubber, but the number of intelligent men in Mexico, who, after careful and personal investigation of the subject, have gone to planting rubber on their own account. These men who buy land and quietly set to work to cultivate the rubber tree are fully convinced that it will produce gum in quantities that will pay handsomely. They have no stock to sell, and they would deceive no one but themselves by putting their money into rubber. They do not expect to make a thousand dollars per acre from their investment, but they do expect it to yield handsome returns, or they would not be living in the tropics with all the attendant discomforts for one of a northern race."

THE CENTRAL CAUCHO CO. OF CUBA.

THIS company was incorporated on December 8, under Delaware laws, with $100,000 capital, for the purpose of planting rubber in Cuba. The interests which have formed the company, including The George W. Ireland Land Co. of Cuba (Philadelphia), own 16,000 acres, to be devoted to the plantation. There are now growing in nurseries in Cuba a number of *Hevea* rubber plants from 12 to 18 months old from seed from trees brought from Brazil a number of years ago, and which have been tapped frequently, yielding rubber of such quality as to encourage the formation of the planting company here referred to. The officers are: George W. Ireland, No. 1011 Chestnut street, Philadelphia, president; J. D. Milligan, of Youngstown, Ohio, vice president; R. E. Hollingsworth, No. 22 Mercaderas street, Havana, secretary and treasurer. Mr. Ireland informs THE INDIA RUBBER WORLD: "Our company is made up largely of friends who intend to go carefully and prove conclusively as we go, and we ourselves are confident of our success."

PITTSBURG-OBISPO PLANTATION CO.

[Plantation at Tuxtepec, state of Oaxaca, Mexico. Office: Times building, Pittsburgh, Pennsylvania.]

INCORPORATED December 12, under New Jersey laws, with $500,000 capital, divided equally between 7 per cent. preferred and common shares, of $100 each. Incorporators: Maxwell F. Riddle, Arthur C. Schiller, John A. Barnes. This company has acquired 1600 acres of land adjoining the plantation "San Silverio el Obispo," owned by the Obispo Rubber Plantation Co., and the name of the new tract will be "El Obispo." Like the former, the new plantation will be developed to a productive stage by the Republic Development Co. The new company has been formed on original lines, in that there will not be any sale of its securities on the installment plan, but its shares will be sold outright, as in the case of a manufacturing corporation. The president is James S. Beacon, late state treasurer of Pennsylvania, and the vice president Edward E. Robbins, a former congressman and now attorney for the Baltimore and Ohio railroad—both of Greensburg, Pennsylvania. The secretary and treasurer is G. Frank Kelly, treasurer of the Candace Coal and Coke Co., Scottdale, Pennsylvania. Some prominent Pennsylvanians other than those named are also directors, and the board includes Maxwell F. Riddle, who is connected with the other companies named in this paragraph. The agents for the sale of the company's stock are Mitchell, Schiller & Barnes, at the Pittsburgh address given above.

VARIABLE SPEED DEVICES FOR RUBBER MILLS.—II.

By J. O. De Wolf.

IN continuation of the article on this subject in the December issue of THE INDIA RUBBER WORLD, a brief description will be given of two other means of accomplishing the results described in that article.

In Figures 1 and 2, presented herewith, are shown two views of the "Reeves Variable Speed Transmission" made by the

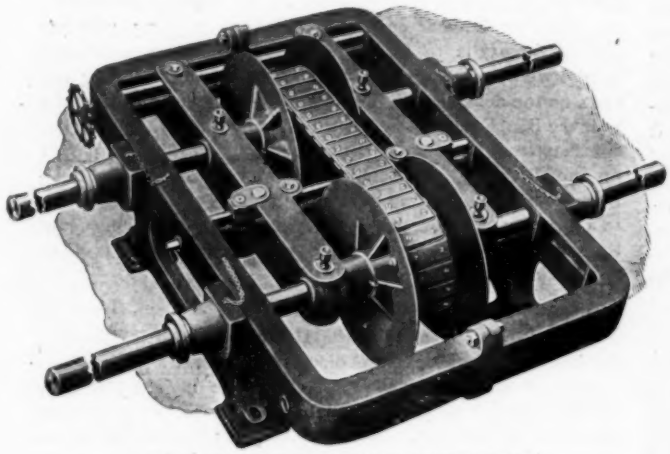


FIG. 1.—REEVES VARIABLE SPEED TRANSMISSION.

Reeves Pulley Co. (Columbus, Indiana). The conspicuous feature of this device is two sets of cone disks mounted on parallel shafts and so keyed that they revolve with the shafts and yet can be moved longitudinally along the shafts. These disks are attached to pivoted bars which are operated by a screw so that one pair of disks is moved together as the other set is moved apart. The combination of bars and pivots is such as to preserve a substantially uniform tension in the belt, which is of the utmost importance in the operation of the device.

By reference to the cuts it will be seen that the inner sides of the disks form a V-groove in which runs a specially constructed belt that has its bearing surfaces on the edges and drives by the contact of the edges with the cones. In operation one set of disks is the driver and the other the driven, the relative speeds being varied by increasing or decreasing the driving circumference of the disks by moving them apart or closing them together as occasion requires.

Figure 1 shows the belt in the same position on both disks so that the speeds of driving and driven shafts are the same. In Figure 2 the pivoted bars *DD* are in such position that the belt drives from the smallest circumference of the driving disks *CC* and runs on the driven disks at their largest circumference, thus reducing the speed of the driven shaft *B* to the minimum. Figure 2 shows a heavier form of transmission than shown in Figure 1, and also illustrates the power shifting device *EE* which is applied to the larger sizes, for turning the screws that controls the cones; on the smaller sizes this is done by hand.

This variable speed transmission is manufactured in different sizes which the manufacturers rate from 2½ H. P. to 150 H. P., and which give a variation in speed of from 10 to 1 on some of the smaller transmissions, to 2 to 1 on the heavier ones.

The several forms of speed changing devices that have thus far been referred to all depend on some well known mechanical principle for accomplishing their purpose. With the increased

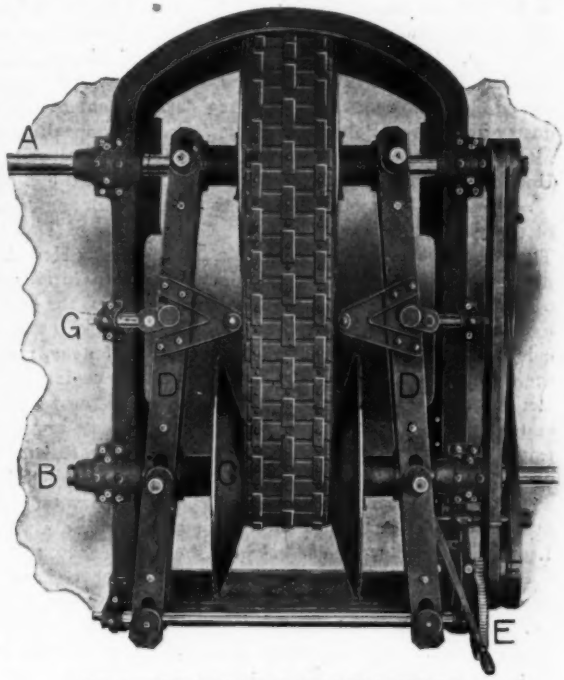


FIG. 2.—REEVES VARIABLE SPEED TRANSMISSION.

use of electricity means have been found for obtaining any desired variation in speed through the use of an electric motor. Such an arrangement for driving a calendar is shown in Figure

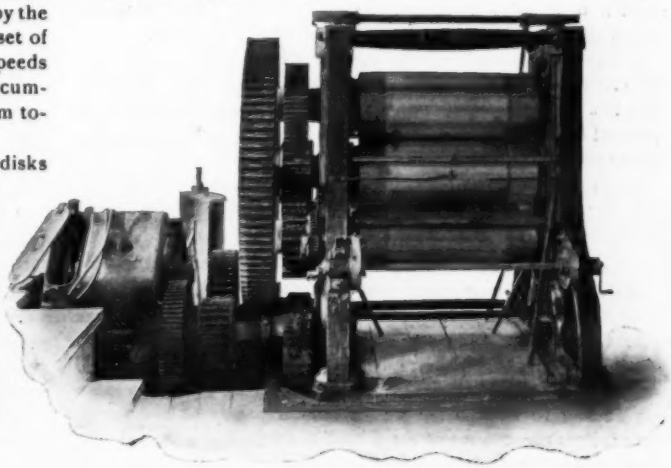


FIG. 3.—CALENDER DRIVEN BY ELECTRIC MOTOR.

3, where a motor, made by the General Electric Co. (Schenectady, New York), of type GE-53, is connected by gearing to the calendar and the speed varied by a controller shown in the background. The operation of this calender driven by an electric motor is the same as the operation of an electric car, and the calender man can control the speed of his machine exactly the same and within the same limits as the motorman controls the car; in fact the controller shown within this machine is the familiar form of street car controller.

RUBBER NOTES FROM EUROPE.

HERR L. OTTO P. MEYER, on December 11, at Dresden, celebrated his eightieth birthday, his friends being able to congratulate him upon his remarkable health for a man of his age. Herr Meyer was a brother of H. C. Meyer, Jr., the founder of the hard rubber industry in Germany, and was concerned in an important way with the development of the industry at College Point, near New York, by Poppenhusen & Meyer, after which he went to Dresden in the capacity of United States consul and has since made his home there.

=On December 4 was celebrated the twenty fifth anniversary of the firm of Reinhardt Leupolt, Gummiwerk, of Dresden. Their business was established on a small scale by Herr Leupolt in 1877, trading in technical rubber goods. In 1883, the business having grown to require larger quarters, the present location was chosen, Wettinnerstasse, 26. In 1899 it was decided to begin the manufacture of goods and on January 1, 1900, their factory was opened at Chemnitz. At the beginning the factory made a specialty of rubber hat bags—forms for straw and felt hats—in which they speedily built up an important trade, including a good export to Austria, Italy, Russia, and elsewhere. Later was added the manufacture of rubber hose and wringer rolls, and finally a third department, devoted to the manufacture of surgical goods (druggists' sundries). Herr Leupolt, the founder of the business, died August 29, 1901.

=J. Schnurmann, dealer in waste India-rubber (London), advises THE INDIA RUBBER WORLD of the removal of his offices from 142, Wool Exchange, and his warehouses from Eagle Wharf, all to Downham Mills, 27-29, Downham road, London, N., where they will be united under one roof, and occupy about 25,000 square feet of space. The increased size of the new premises will enable Mr. Schnurman's trade to be enlarged, and more attention to be given to the American trade.

=The Hannoversche Gummiwaaren- und Balata-Treibriemen-Fabrik, Adolf Prestieu, has established a branch in Hamburg, at Mattenwiete, 5-7, in charge of Friedr. C. Held.

=The liquidation has been completed of the Hannoversche Caoutchouc-, Guttapercha-, und Telegraphen-Werke. Nothing was left for the shareholders. The three principal creditors expressed their willingness to assume the loss suffered by the other creditors.

=An acetylene gas plant has been installed in the factory of the Vereinigte Berlin-Frankfurter Gummiwaaren-Fabriken, at Gelnhausen.

LEYLAND AND BIRMINGHAM RUBBER CO., LIMITED.

AT the annual meeting of shareholders at Leyland the chairman, in discussing the financial statement [summarized in a late INDIA RUBBER WORLD], said that it might be thought that the profits for the last business year would justify a larger dividend than 7½ per cent. But the directors preferred to go on adding to their facilities, for the company had had to refuse orders on account of the premises not being as they should be; besides, it was desirable to have plenty of cash assets, so as to command a buying position in the market. During the year their plant had been appraised by a firm of valuers at a higher figure than stood on the company's books, by several thousand pounds. The number of employés was 175 greater than at the same time last year. The prospects for trade were bright, owing to the ending of the war in South Africa and the opening up of new markets. The cycle trade was improving, and the company hoped to benefit from the early expiration of the Dunlop patents, when the tire trade would be open to the world.

THE SILVERTOWN COMPANY'S REPORT.

AT the thirty-ninth annual meeting of the shareholders of the India Rubber, Gutta Percha, and Telegraph Works Co., Limited, in London, on December 16, the directors reported a net profit for the year ended September 30 of £57,554 3s. 4d., against £56,057 1s. 5d. for the preceding year. The usual dividend of 10 per cent. was paid for the year, in addition to 4 per cent. on the debentures. The company completed during the year the San Francisco-Sandwich Islands cable, which was despatched from London on September 20, and were employed on numerous smaller orders for cable work. The general business showed some falling off, which is stated to have been due to a lowering of selling prices, the quantity of goods being about the same for the two years. The amount carried over is £62,362, against £54,808 last year.

ENGLISH TIRE COMPANIES.

AT the annual meeting of the Dunlop Pneumatic Tyre Co., Limited, on December 10, the directors presented a report showing a profit for the year ended September 30 of £186,589. They recommended a total dividend for the year on the preference shares of 10 per cent., amounting to £4),750, and on the ordinary shares of 5 per cent., amounting to £49,999. After paying interest on debentures and writing off £45,371 on patents, a balance of £177,922 remained to be carried over, against £178,580 brought forward on September 30, 1901. The total profits which accrued in the subsidiary companies to the end of the year amounted to £146,099, of which sum only £34,000 had been taken account of in the balance sheet, the remainder being left in those companies to provide them with ample working capital. The report states that the new patent processes adopted by the company have proved eminently successful, and marked an important advance in the tire manufacture.

At the eighth annual meeting of the Palmer Tyre Co., Limited, on December 1, a profit for the year was reported of £6,971 and a dividend was declared making a total for the year of 20 per cent., or £9,600. This was made possible by the very large reserve fund, which the board no longer saw a reason for maintaining. Trade prospects were reported good, but prices during the coming year will be slightly reduced. The board believe, however, that the sales will increase enough to bring in as large, if not a larger, net income than before.

At the annual meeting of the New Grappler Tyre Co., Limited, in Dublin, on November 20, it was resolved to supply the additional capital asked for by the directors by the shareholders subscribing £5,875 for the Balance of the debenture issue ordered last year. The company under its new management had worked without sufficient working capital, but during three years had paid in royalties on cycle tires enough to have yielded 10 per cent. each year on the company's ordinary shares. Although the Dunlop patent expires in 1904, bringing an end to the payment of royalties, the Grappler motor tire patent has about six years yet to run, and the company have had a good demand for motor tires, including that though an agency lately opened in France.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE idea current in many minds that we were in for a long era of low prices in raw rubber must be pretty well dispelled by this time, having regard to the upward movement of the last few weeks. The rise in Pará rubber is attributed by Liverpool brokers to the increased demand in the United States, in conjunction with the shortage due to the Acre troubles. But whatever the reason the situation remains, and manufacturers are not consoling themselves with the thought that the upward tendency is due to any sudden or temporary market disturbance. It is not at all certain that a continued drop in prices would have had an unequivocal welcoming, because it had begun to be recognized that the public might with some show of reason clamor for a reduction in the price of goods. As to how far such reductions have already been conceded it is difficult to speak with any degree of certainty. The Silvertown company in their annual report put down a reduction in profit to lower selling prices, rather than to reduced turn over. This large concern, it should be remembered, is, like the North British Rubber Co., outside the India-rubber Manufacturers Association, and so is at perfect liberty to follow out its own inclinations with regard to the price list. With regard to the high price ruling for Gutta-percha, this is hardly surprising, taken in conjunction with the new submarine cable schemes in hand and on paper. Certainly Gentsch's Gutta-percha substitute has arrived at an opportune time to have its lauded claims to recognition carefully investigated by experts. I am not in a position to speak at first hand concerning the reported dicovery of Gutta-percha by Colonel Sparkes in the Bahr-el-Ghazal, but I cannot help feeling extremely sceptical as to the product being Gutta-percha at all. This of course does not detract from the importance of Colonel Sparkes's discoveries in other directions, concerning which I hope to be shortly in a position to speak at greater length.

RAW RUBBER PRICES.

ALTHOUGH dealers and agents in these goods can be said to have done better during last year than have their brethren devoted solely to the original macintosh, yet they are now complaining of the war of competition. At first these goods were made only of good quality material, and sold at corresponding prices; now, however, they are being retailed as low as 8 shillings 6 pence each, and as an agent informs me difficult to sell at that. The business, he said, is not what it was, and in his opinion it portended a return of the macintosh to public favor, a consummation which would be entirely to his liking. Certainly the proofing trade has passed through a period of depression and anxiety of late which has had no parallel for many years and the turn of the tide is eagerly awaited.

RAINPROOF GARMENTS.

TWO contributions have recently been made to the theoretical side of our trade interests, though neither of them call for more than bare reference here, owing to their non-technical bearing. Professor C. Harries, of Berlin, has contributed to the German Chemical Society a further paper on the chemistry of Pará rubber, the action of nitrous acid being specially studied. The other paper is by Sir William Ramsay, entitled "Experiments in the chemical behavior of Gutta-percha." This paper was read before the London Section of the Society of Chemical Industry, though it is of the sort which is usually presented to the Chemical Society. Professor Ramsay is of course one of our foremost chemists, and what he has to say must naturally attract attention, though his connection with the defunct Gutta-percha Corporation was not altogether a happy one. He says that it is now time both for scientific and commercial reasons that bodies belonging to the class of Gutta-percha and India-rubber should be brought under the domain of structural chemistry, though he acknowledges that the subject is a very difficult one. It does not seem advisable to occupy space by attempting a summary of the paper, and I shall leave the subject by remarking that the short discussion was notable from the fact that Mr. John Spiller, who has since 1865 been known in connection with Spiller's resin, took part in it, and that Dr. C. O. Weber was absent.

THEORETICAL CHEMISTRY.

WITHOUT attempting in any way to give a complete report of the numerous exhibits at the 1902 show held at the Agricultural Hall, London, in November, I shall, as on previous occasions, refer, as far as space will allow, to the exhibits of our rubber manufacturers. The stress of competition is doubtless responsible for the evolution of the illustrated price list; with the majority of the tire companies this now takes the form of a booklet tastefully got up and containing, besides some general notes on the nature and manufacture of the tires, some extraneous information of utility to riders. From an artistic point of view, as well as from the encyclopedic nature of their contents, the booklets issued this year must, I feel sure, recoup the efforts put forth in their construction, though the cyclist who proposes to take more than one or two in his pocket will be adding seriously to his dead weight. About the Bartlett-Clincher tire of the North British Rubber Co., Limited, there is really nothing new to say; this is still made in the three grades—A-won, "B" and "C," the last being made of red rubber in order that it may not be confused with the others. To judge by what one reads in the lists of other firms, the statement of the North British company that as far as observation goes their A tire is the only one that can correctly be described as being made entirely of Pará rubber, is open to challenge, but there is of course a good deal of merit in the qualifying clause "as far as observation goes." The Palmer Tyre Co., of Birmingham, had a good exhibit of their well known tire, which is made for them at the Silvertown works, under license of the North British Rubber Co. Special qualities are claimed for the fabric employed, this being woven in a manner which no other firm has been able to imitate. The road maps issued in the booklet of this firm will no doubt prove of great utility to riders. A novelty of this season is the motor cycle tire, for which a specially strong make of the Palmer fabric is employed. At the stand of the "Camel" tire, the progress made since Messrs. Reddaway, of Pendleton, took up the manufacture was demonstrated. The "Camel" tire is made in two distinct types, "wired" and "wireless," each being sold in three qualities: the Special made of Bolivian Pará; the First grade made of the highest quality pure Pará. The rubber in the third grade, or "Camel" tire pure and simple, is stated to be of excellent quality. It is noticeable that Messrs. Reddaway announce that they will defend any actions brought against dealers by firms who allege infringement. The Clipper Tyre Co., of Coventry, exhibit referred especially to the motor car and motor cycle tires, they being the salesmen in England of

STANLEY CYCLE SHOW.

the Michelin tires and the "Continental" tires, manufactured by license of the Dunlop company. Their booklet contains a good deal of information useful to motorists and including the law as to the use of motor cars on the highway—a subject on which a good deal has been heard lately. The Scottish Tyre, Limited, of Glasgow, who work under license from the Dunlop company, showed their Scottish "*de-Luxe*" and "Victor" tires guaranteed for thirteen months. From private information vouchsafed to me by riders these tires seem to quite bear out the claims made for them. The "Collier Twin" tire has been referred to recently in these pages and I need not say more than that they had a prominent exhibit which attracted a good deal of attention. In the "Black" tire, made by the Black Pneumatic Tyre Co., Limited, Glasgow, an arrangement of sectional bands, eyelet holes, and studs is adopted instead of the usual wire or thickened edge. The statement in their circular that Moseley's rubber and fabric, of which the tires are made, is recognized to be the finest and most suitable, amounts to an *ipse dixit* which might conceivably be challenged. The "Radax" tire, the peculiarity of which lies in self attachment under inflation due to the curvilinear nature of the fabric, occupied a prominent position, and mention should not be omitted of the exhibit of the well known motor tires of the New Grappler Pneumatic Tyre Co., Limited, of Dublin. Besides the North British Rubber Co., the other *bona fide* rubber manufacturers who had exhibits were the St. Helens Cable Co.; the Avon Rubber Co., with the "Avon" single tube motor tire; Midland Rubber Co., and W. & A. Bates, of Leicester. The Continent was represented by the Continental Caoutchouc und Guttapercha-Compagnie, of Hanover, whose stand was in point of size and attractiveness worthy of the firm. The descriptive catalogue given away to visitors contained an interesting series of views of the different departments of the works, and it will no doubt prove of considerable interest, seeing the increasing interest which the cycling and motoring public take in the subject of rubber. The United States, it should be mentioned, was represented by the Goodyear Tire and Rubber Co., with their motor tire.

BRIEF MENTION.

IT would seem that I ought to modify in one respect some remarks I made last month regarding the manufacture of dry core telephone cables. It is incorrect to say that owing to climatic troubles the manufacture has practically died out, these troubles it appears having been quite overcome in the large works in Lancashire and on the Thames, where such cables are now being made on a large and increasing scale.——Mr. T. C. Leer, who has long been connected with the London house of Charles Macintosh & Co. Limited, has I understand been appointed the manager in place of Mr. T. M. Bleackley deceased.——Mr. Charles Coops, late managing director of the Eccles Rubber and Cycle Co., Limited, has finally severed his connection with the company and will probably make his home in South Africa.——It is not always easy to get at the truth of changes or reported changes and I was somewhat previous with my late remarks concerning the Capon Heaton Co., of Stirchley, Birmingham. They have not, at least up to date, been bought up by the Dunlop company, but are going on independently and doing pretty well from all accounts.——Mr. P. A. Birley, of Messrs. Charles Macintosh & Co., has returned from his visit to the United States, and bears eloquent testimony to the hospitality extended to him and to the pleasure and instruction he derived from inspecting the works to which access was granted him.——Mr. John Zwingler, with whom originated the Dermatine manufacture, recently died in London. He was of Austrian nationality, a term which does not convey any very definite racial characteristics, but I am unable to particularize his origin more clearly. He had long ceased I may say to have anything to do with The Dermatine Co., Limited, of London.——Mr. James Burleridge, of Messrs. William Warne & Co., of Tottenham, has returned from the Continent quite recovered from his recent indisposition. The old works of Messrs. Warne & Co. will still continue to be carried on at Tottenham, in conjunction with the larger works recently opened at Barking.——The works of the Hyde Imperial Rubber Co. were at the sale by auction on November 25, bought in at £15,550 by a syndicate promoted by Mr. Dawes, the late manager, and he will be the manager of the new company formed to operate the works.

GEORGE LITTLEWOOD & SONS, LIMITED.

WITH regard to a recent announcement in this correspondence, it should be said that this firm have given up the idea of removing entirely to Birmingham, and the works of the Standard Rubber Co., of Ross street, West Gorton, Manchester, will be carried on by them under the title of George Littlewood & Sons, Limited, with Mr. Paterson as manager. A complete up-to-date plant for the manufacture of cycle strips is now being put down.

THE BRITISH PLUVIUM CO. LIMITED.

UNDER this somewhat strange title a works has been established at Monton Green, near Manchester, for the manufacture of artificial leather. I am not in the secret of the manufacture, and it is somewhat too early to say anything very definite about the prospects thereof. Its interest to the rubber trade lies in the fact that hospital sheeting is to be largely made, and it is expected that this, on account of price and longevity, will compete severely with the ordinary rubber article. An oily smell about these goods seems to me rather a drawback, but this may possibly prove to be but a temporary inconvenience. The works are controlled by the Winterbottom Book Cloth Co., a large Manchester concern, and are in effect a branch of a works already established for some time in Germany. So far it must be confessed what has been done in the way of manufacturing artificial leather in this country has not been a success; it may be that the problem has now been solved.

UNPROFITABLE CABLING ON THE AMAZON.

AGAIN an unfavorable report is made by the Amazon Telegraph Co., Limited, on the operation of the submarine cable between Pará and Manáos. At the shareholders' meeting in London on December 2, the directors reported a gross revenue for the year amounting to £47,113 15*s.* 5*d.*, and total expenses of £47,422 4*s.* 10*d.* One interruption of nine weeks caused an estimated loss of revenue of over £3000. Charging for interest and sinking fund there is a debit balance for the year of £16,005 14*s.* 1*d.*, making the total debit balance to date £85,178 15*s.* 5*d.* The new repair steamer, the *Viking II*, now on the Amazon, is giving good results. The operation of the new land lines during the year was much more expensive than was anticipated. The company have been seriously inconvenienced by their inability to collect the subsidy due under the concession from the Manáos government, now amounting to £11,899 3*s.* 4*d.* The company's £10 shares have been quoted recently at £3 and £4, and the £100 5 per cent. debentures at £70 and £80.

THE Russian-American India-Rubber Co. (St. Petersburg) are making rubber carriage tires which, in a recent public competition ordered by the St. Petersburg city council, made a good record for not splashing mud.

AN ATTEMPT TO "MAKE RUBBER" THAT FAILED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: During the summer of 1902 I was offered an opportunity to invest in the stock of a company which had been organized to manufacture a process rubber or substitute from a formula said to have been originated by one W. K. Freeman. The offer came to me from gentlemen connected with a company which had acquired an option on the Freeman process. These gentlemen were of very high standing and of unquestioned integrity. Freeman had given them many samples of his compound, and even conducted parts of his operation in their presence and had given them parts of his formula. Tests of the samples which he submitted to them had been made by practical rubber men, who reported in substance that the material was rubber of a high grade, one expert stating that it was equal to medium Pará.

After examining the matter so far as documents were concerned and consulting with clients, I notified the officers of the company that if Mr. Freeman would perform his experiments, and make in the presence of our representative a compound equal in all respects to the sample which he had delivered to us, my clients would take on the terms proposed all of the remaining stock of the company. I was present at an interview at which this offer was submitted to Mr. Freeman. He replied that he was ready to give the test, but not in the presence of a chemist, lest advantage might be taken of his process, which was necessarily secret. This was assented to, and I was myself designated as the person in whose presence the compound was to be manufactured.

I was given a list of various materials which had entered into the composition of the last batch of the compound which had been manufactured, and which had been submitted to the tests above mentioned. I was informed by Mr. Freeman that 21 pounds of materials had been used in the manufacture of the batch of compound, which when finished had weighed exactly 10 pounds. I was given the names and amounts of articles which aggregated 20 pounds out of the 21 of gross material. I was told by Mr. Freeman that he reserved the right to mix with the 20 pounds of material which I purchased one pound or less of materials which he was to purchase, the composition of which was to be secret—this for the necessary protection of his formula.

Having purchased the materials which I was to supply, arrangements were made for a test, which was to be conducted at Mr. Freeman's establishment at No. 403 East Twenty-third street, New York. There then ensued a considerable period of delays and excuses for the failure to manufacture the compound. I was on hand at the somewhat early hours designated by Mr. Freeman, but his excuses were such as failure of the chemist to send him the pound of material which he was to supply, sickness resulting from former experiments, death of a relative, etc.

Ultimately, however, the test was begun. Mr. Freeman used the 20 pounds of material which I purchased, and had on hand several little bottles containing something less than a pound of material which he had himself purchased. Some of the ingredients—consisting, I believe, of cellulose, water, and caustic soda—were put into a metal vessel and kept at a temperature of about 200° F., over a slow fire from somewhere about 8 o'clock in the morning until about 6 or 7 in the evening. Mr. Freeman occasionally during this process examined the fibers through a small magnifying glass, and talked somewhat mystically about the slowness with which the material approached the critical point when the cotton fibers which it contained should be ready to change to rubber. Some time about 6 or 7 o'clock, he stated that the material could not possibly be ready for the test prior to 11 o'clock that night, and suggested that I should go and get something to eat. I objected that, although I was hungry, I feared the pot might come to the boiling point while I was away. He protested in the presence of three gentlemen, all of high standing here, that it was impossible that the critical time should be reached short of five or six hours. These assurances were accompanied by further magnifying glass examinations. I then asked what would happen in case he should be mistaken, and it should get ripe while I was absent. He answered that all he had to do was to take it from the fire and pour some bisulphide of carbon in the pot and that the mixture would keep any length of time. I thereupon left for my dinner, leaving two gentlemen (one a prominent lawyer and the other a very prominent banker) who were to watch operations until my return.

I announced that I would be gone just an hour. As a matter of fact I returned in thirty-five minutes, and then learned that almost immediately after I had left Mr. Freeman stated that he could no longer control the "brew," and that it was going to "ripen" during my absence. Protest was entered, and it was pointed out, I am informed, that he had promised me that the addition of some bisulphide of carbon would save the situation. He had, however, changed his mind about this, and he accordingly added some bisulphide of carbon and transferred the mixture to an earthenware crock. At this time there was a little difficulty, I am told, arising from the fact that the compound took fire, or at least escaping gas was burning freely. The flames were suppressed with a wet towel, and the pot was stirred a bit, and then Mr. Freeman carried the vessel and contents into a little closet which he designated as a "dark room" and which had at one side of it a sliding window closed with orange colored glass. He had been in the dark room only a short time when I returned. I at once went in the dark room with him, and protested against his using the closet when the entire floor of the factory was so dark that it might have been used for a photographic developing room. I could see no purpose in the dark room, except that it confined the gases which were escaping, and which were clearly some sort of nitrous fumes of an exceedingly irritating character. Mr. Freeman insisted that it was necessary to remain in the room, and he added from time to time to his mixture some of the chemicals which I had purchased, and also some nitric acid which he had purchased, and which apparently caused the fumes which made the room almost uninhabitable. After perhaps five minutes, Mr. Freeman was overcome by the fumes and had to be taken from the room and a doctor summoned. Owing to the fact that I had been in the room a shorter time than he, and to the further fact that I had stood on a bench and escaped the fumes in the lower part of the room, I was less affected by the gases and able to remain in the room some time after Mr. Freeman left it. I found a window in the room communicating with another room which had been locked, although I had requested that it be left open.

When Mr. Freeman was sufficiently recovered, he went back into the room and examined the materials, and while there dropped on the floor of the dark room the key which he had

used when entering. I endeavored to find the key, but was not successful, and Mr. Freeman said that he had a duplicate key in his pocket. As the fumes were disagreeable, I again left the dark room with Mr. Freeman. As he went out, he endeavored to close the door. I refused to permit it to be closed until the duplicate key was produced. Mr. Freeman insisted on closing the door (which locked with a spring lock), saying that to leave it open would spoil the brew. I insisted that the entire building was darkened and that no light could possibly get in, and stationed an attendant to hold the door ajar, but as soon as I had gone Mr. Freeman closed the door with a jerk, at the same time locking it with the spring lock. As this left the dark room in communication with the window above mentioned, the whole experiment seemed to me to be quite useless, but as there was still an opportunity to burst open the door, I asked Mr. Freeman in the presence of four other persons whether he claimed that the experiment had been a success. He replied that it had been a complete failure, as he had been overcome by the gases before he had put in all of his chemicals; that he would make no claim that the experiment was successful, but would give me a further experiment as soon as he recovered.

The next day he sent word to me that the experiment had been completely successful, and that the batch of rubber which had been made was the finest he had ever produced. I declined to accept this as a satisfactory test, and although I have many times requested a further experiment I have never been able to get one. The gentlemen who had invited me to invest in the company have since notified me that Mr. Freeman has failed to perform the experiment to their satisfaction, and that they have withdrawn from the enterprise.

Mr. Freeman gave me two samples of a product he claimed to have manufactured. I had them analyzed, and one sample, which he said was the result of a successful experiment, is reported to me to have been nothing but rubber which had been dissolved in some volatile hydrocarbon and later recovered upon the evaporation of the solvent. The second sample, which he said was the result of an unsuccessful experiment, is reported by the chemist to have been probably made from an old rubber shoe. The fibers of some sort of canvas were plainly visible in parts of this last specimen when he gave it to me.

In the course of my interviews with Mr. Freeman, I pointed out to him that he claimed to have produced from the 21 pounds of raw material 10 pounds of rubber, which on analysis was found to contain 87 per cent. of carbon. I told him that he therefore had at the conclusion of his experiment 8.7 pounds of carbon; that in the list of materials which he had given me, and which embraced 20 pounds of the 21 pounds he had used there were in all only about 4 pounds of carbon, and that even if we assumed the other pound to be carbon, still the result was that starting with about 5 pounds of carbon, he had finally wound up with more than eight pounds. I asked him where he got the excess, and he replied that he got ft from the water. I asked him whether it came from the hydrogen or the oxygen, but he replied that I did not understand chemistry, and that he could not discuss the matter with me. W. H. STAYTON.*

New York, December 19, 1902.

MR. FREEMAN AND HIS PROCESS.

A REPRESENTATIVE of THE INDIA RUBBER WORLD on December 26 called at No. 403 East Twenty-third street, New York—a large building, across the front of which is displayed prominently the name of Walter K. Freeman, M. E., with other signs indicating that inventions are developed within and drawings and patterns supplied. Going up two flights of stairs he entered what was said to be Mr. Freeman's office, and was informed by a middle aged gentleman who seemed to belong there that Mr. Freeman had been detained that morning at Rutherford, New Jersey, at "the factory," which he explained was being erected to develop a new rubber product. He said that work on the factory had been interfered with for the reason that parties in New York who were supplying the capital had been "caught in Wall street." When asked about Mr. Freeman and his rubber substitute, the middle aged gentleman said that it had been undergoing tests for two years past, and that the United States Rubber Co., the Goodyear company, the Diamond company, and other concerns had used it in manufacturing shoes, tires, etc, and that the manager of the United States Rubber Co. would be prepared to give a good account of the new material. He said that a gentleman from Germany, representing an association of bankers, had lately visited New York and obtained samples of the product with a view to organizing a company for its manufacture in Germany. Mr. Freeman, he said, had left a college at Racine, Wisconsin, to go to South America for Mr. Charles R. Flint, and while in the tropics had become interested in India-rubber.

Later in the day the representative of THE INDIA RUBBER WORLD talked with Mr. Freeman in the same office, without seeing the middle aged gentleman above mentioned, and was shown over the establishment, occupying a floor space apparently about 50 × 100 feet, and filled wth machines, models, etc. Mr. Freeman, when asked about his rubber substitute, said that while making experiments in lighting, as an electrical engineer, the action of certain chemicals had led him to researches on another line, which had resulted in the making of a synthetic product which he thought might be of interest to the rubber trade. He did not know whether it had any value, but had made a few samples of not more than 6 or 8 pounds each, which he had sent to a few rubber manufacturers, who had expressed the opinion that "there might be something in it," while others had said that it had no value. He had no money to spare in developing the process, but if anyone desired to invest money for the purpose of further tests on a large scale, he was willing to allow the use of his secret formula and to carry on the experimenting, although his health had been so affected by the poisonous fumes incident to the process that his physician had advised him to let the whole thing alone. The base of his product was cellulose, from which the product was "built up" by a process which he had not revealed to anyone. The product he thought might prove of value for compounding with rubber, and, in certain cheap goods, take the place of rubber. He had also prepared samples in which Pará rubber was incorporated—as low as 15 per cent. and as high as 87 per cent. No one had been asked for any capital in connection with this product, though parties had come to him and offered to raise capital, and afterwards failed to do so. When asked about the factory at Rutherford, New Jersey, mentioned by the middle aged gentleman, Mr. Freeman said:

"Oh, that old man talks too much. If I put a shovel into the ground he thinks I am building a big factory."

Mr. Freeman asserted in answer to a question that he had been in South America very little, and that this had no connection with his interest in rubber. When told of the statements contained in the communication which appears above, Mr. Freeman categorically denied every one of them, and in regard to each detail made a diametrically opposite statement, insisting particularly that the test referred to was made by the other parties present and not by himself, and that he did not know

* Mr. Stayton is a member of the important legal firm of Stayton & Campbell, No. 30 Broad street, New York. He was educated at the United States Naval Academy and was in active service in the navy for several years before being called to the bar. He is a man of high personal character and social position.—THE EDITOR.

that it was made for Mr. Stayton or that Mr. Stayton had appeared as the representative of anybody but himself. Moreover, that test was a failure.

Mr. Freeman, in talking with THE INDIA RUBBER WORLD representative, denied any knowledge of the American Crude Rubber Co., incorporated August 22, 1902, under New Jersey laws, with an authorized capital of $2,000,000, for "the manufacture of and sale of rubber and rubber products and the cleansing of such products; the manufacture, purchase, and sale of chemicals, and chemical products;" etc. The incorporation papers were signed by Owen E. Abraham, John W. McConnochie, and Kenneth K. McLaren. The first two are connected with the office in New York of a gentleman widely known, who invested a considerable sum with the idea that it was to be devoted to the erection of a factory at Rutherford, New Jersey, for the manufacture of a substance which would take the place of rubber, and be saleable to manufacturers at 70 or 80 cents a pound, and the American Crude Rubber Co. was incorporated at his instance to control the business. Losing confidence in the rubber product, he stopped investing his money in the business. A block of stock was allotted to Mr. Stayton, whose letter appears above, and he was called upon for an assessment, which he declined to pay without seeing a test of the process, and the result of such test is recorded in his letter. THE INDIA RUBBER WORLD, after several attempts, has failed to get any information regarding the affairs of the American Crude Rubber Co. from persons authorized to speak for it. An interesting feature in its incorporation papers is the enumeration, among its "objects" of the following:

To borrow or raise money without limit as to amount by the issue of or upon the warrants, bonds, debentures and other negotiable or transferable instruments, or otherwise.

It would appear that up to date this is the chief object of the corporation to which effect has been given.

Although Mr. Freeman asserted to the representative of THE INDIA RUBBER WORLD that he lacked facilities for the proper development of his process, THE INDIA RUBBER WORLD is assured that a large rubber manufacturing company near New York has more than once offered to give Freeman the exclusive use of its laboratory and apparatus for experimental purposes, and has also offered to supply all of the money suggested by Freeman in negotiating with certain other parties, namely, $250,000, on the terms mentioned by him in a contract with those parties, if he would make a test of his process satisfactory to any representative of the manufacturing company.

THE RUBBER WAR ON THE ACRE.

COMMENTING upon recent hostilities in the Acre district, *The Brazilian Review* (Rio de Janeiro) says "all the elements are ready for a struggle as barbarous and savage as any that have disgraced the history of civilization." The *Review* does not doubt that Brazil is sincerely desirous of maintaining peace with Bolivia, but there may be "circumstances that even the Bolivian government could not resist that may in the long run drive this country into war with Bolivia, just as Great Britain was drawn into the struggle with the South African republics against her will."

The Acre was, according to our contemporary, discovered and developed exclusively by Brazilian enterprise and Brazilian capital. The district is as rich in rubber as the Transvaal is in gold, and is practically unworkable except by Brazilians. The only industry in the district is rubber gathering, which is carried on by some 18,000 persons, nearly all Brazilians. With regard to the feeling in Brazil, the *Review* says:

"The relation between the Acre pioneers and their friends and relatives at Pará and Manáos who have assisted and financed them from the first are naturally close and as intimate as they could possibly be. These settlers and backers believe that it would be to their interest for the Acre to be under the Brazilian rather than the Bolivian flag. Whether they are right or wrong we will not discuss, but when, in a district where life is almost impossible for outsiders, nine-tenths of the local population declare for any particular policy and are inclined to back it up by action, resistance in the long run must cave in at the Acre as it has done in South Africa."

The London *Morning Post*, which has given no small attention to the whole subject, advises the Acre *concessionaires* to restrict their claims and pretensions to purely commercial interests and to abandon those of a semi-political nature. It considers that on the action of the Foreign offices of the United States and Great Britain, and the encouragement given by the press and public of these countries, probably in reality depend the chances of war or peace.

The commission despatched by the Bolivian syndicate to inaugurate preliminary work on their concession in the Acre district had not, at last accounts, proceeded beyond Manáos, on account of the unsettled condition of affairs on the Acre river. The president of the commission is William Lee, an American. The other members are James Pitt, second director, Dr. David Edet, the physician of the party—both Englishmen—and Señor La Fontaine, of Argentina, the technical manager.

On August 6 Colonel Placido de Castro, commander in chief of the forces in revolution on the Acre—settlers from Brazil—deposed the Bolivian authorities at Xapury, and on the following day proclaimed the independence of the territory and declared war on Bolivia. Leaving a garrison at Xapury, the revolutionists descended the Acre, touching at several points at which Bolivian troops were stationed, all of whom were overcome, besides which large quantities of provisions and cattle were secured. The Bolivian congress has authorized the emission of 1,000,000 bolivianos [=$193,000] in paper money to defray the cost of sending 1000 men to quiet the disturbance on the Acre, and also authorized the banks to make extraordinary issues of bills. It was reported that President Pando might head the expedition, which would require perhaps four months, traveling overland, to reach the Acre.

CABLES AND WIRELESS TELEGRAPHY.

THE German postoffice department has made a liberal grant of funds for an investigation of the Gutta-percha resources of New Guinea, in view of the recent discovery of Gutta-percha species there by Herr Rudolf Schlechter. Evidently the secretary of the German imperial posts—who has the supervision of various submarine cable lines—does not regard wireless telegraphy as sufficiently developed yet to render it unnecessary for him longer to be concerned about supplies of insulating materials.——The Canadian government cable steamer *Tyrian* lately completed the laying of 114 miles of submarine cable in the gulf of St. Lawrence. At the same time the announcement was made that all the government signal stations on the gulf would soon be equipped with wireless telegraph apparatus, the experimental stations first erected having worked successfully.

During December Signor Marconi was creditably reported to have sent wireless messages across the Atlantic, but the opinion remains that the new invention can never supersede submarine cabling.

SOLE AND BLANK CUTTING MACHINES.

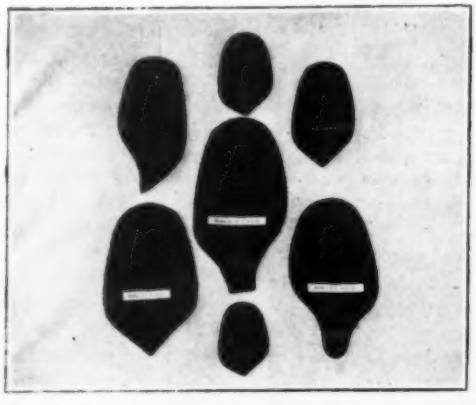
THE Wellman sole cutting machine is adapted to cut all manner of irregular forms, especially those where a bevelled edge is a requisite. As shown in an illustration on this page, it is arranged for the cutting of boot and shoe soles, taps, balls, syringe bulbs, and other blanks of that nature. By adaptation the machine may be made to cut any shape or any size. The soles and the taps shown in illustrations herewith also are samples of the range of work done on this machine. All of the soles were cut on one machine, adapted to sole cutting, and the taps on another machine adapted to that work. Round ends, angular points, square ends, as will be seen, offer no difficulties and are, as a matter of fact, more easily cut by the machine than by hand. The output of the machine is limited only by the ability of the operator to care for the material cut; in many instances, with the help of an assistant to care for the blanks, as many as 10,000 pieces have been cut in less than nine hours, the pieces being made up of no less than thirty different forms or sizes. An average of over 3,500,000 pieces are cut each month on these machines in the United States alone, in addition to what is being done by them in Canada, England, Scotland, Germany, Austria, Sweden, and Russia. The machine is simple in construction, but, to use the words of a well known superintendent, almost human in its action. The knife carrying device consists really of a hand, wrist, elbow and shoulder; the machine has a "head" also, which, together with the leader, guides the hand just as the brain guides the hand of the hand cutter. The machine is well built and all its parts are interchangeable.

WELLMAN SOLE CUTTING MACHINE.

There is no doubt that this machine could be used to great advantage where many pieces of one kind are to be cut, and will find a place in many factories in the druggists' sundries and mechanical lines. It is interesting to note that the same brilliant inventor who perfected this machine is now devoting himself to the production of machines and devices in rubber factories that will do away with hand labor. In other words, he places himself and his finely equipped machine shops at the service of the rubber trade the world over. Not as an advertisement, but as a piece of valuable information to the progressive, we are glad to add here that the gentleman referred to is Mr. A. M. Stickney, of the Wellman Sole Cutting Machine Co., Medford, Massachusetts.

To those who are not familiar with the Wellman sole cutting machine the illustration that accompanies this article may not be altogether clear. Briefly, the machine works in this way: The small metal table at the upper part of the frame is that on which the rubber sheet rests as it is drawn through from right to left. Just above this sheet is a form which, at rest, gives perhaps half an inch clearance above the sheet of rubber. This form is something like the presser foot to a sewing machine. To it is attached a metal pattern of the shape to be cut. When the operator puts his foot on the treadle the form is instantly pressed down upon the sheet of rubber and a knife point held either at an angle or vertically, as the case may require, runs swiftly around the form, cutting out the shape desired. By a variety of simple adjustments one form may be made to cut a number of sizes, and all with perfect exactness.

CUT ON SAME SOLE CUTTING MACHINE.



CUT ON SAME TAP CUTTING MACHINE.

THE word "mackintosn" with a *k* is usually considered an Americanism, but it is by no means certain that this spelling originated in the States. In the official reports of the juries on awards at the Great London Exhibition of 1851 may be found more than one mention of "mackintoshes," relating to the display made by the original manufacturers of these articles, at Manchester. The publications in connection with this first great world's fair, no doubt, helped to fix the spelling of very many trade terms then new.

THE RUBBER TRADE AT AKRON.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The advancing price of crude rubber is being watched with keen interest by rubber manufacturers in general, but especially so by manufacturers of tires. Solid tire prices dropped so low the past season that the condition of the business was regarded as critical; and as two-thirds of the solid tires manufactured in America are the product of Akron factories, this city was the center of the storm coming from carriage manufacturers demanding cheaper tires. The result in some instances was tires of poorer quality, but even this could not entirely solve the problem, for tires of the same quality as before were expected and could not be delivered at the lower selling price. On the other hand, to keep up the standard of quality meant a curtailment of business, temporarily, at least. And now the advance in crude rubber values aggravates the situation. Some large contracts were made when the raw material was cheaper than now, but on all new orders and contracts there is a general stiffening of prices, from sheer necessity. Crude rubber is not alone in the upward scale. Other material, fuel, freight rates, and labor are costing more.

"In every contract for supplies which I have made for the coming year I have been obliged to grant an advance in price. To meet the condition prices of manufactured tires and rubber goods in general should be increased from 10 to 20 per cent.," said an official of a leading rubber company. Other manufacturers concur in the proposition that prices must be materially stiffened to meet prevailing conditions. It is the unanimous belief that 1903 is to be a record breaker in rubber manufacturing.

* * *

THE plant of the People's Hard Rubber Co. remains closed and Joseph J. Freeman, of New York, is in charge of the property. No authorized statement save that the control of the company has passed to new owners by the sale of a majority, if not all, the stock, has as yet been made. Unofficially it is said on excellent authority that a New York broker who is now represented here by Mr. Freeman, was the purchaser. Whether he acted for the American Hard Rubber Co. is not stated, although it is generally believed that he did. An inventory of the People's Hard Rubber Co. property was taken just before the sale, late in November, by R. H. Wright, secretary of the company, and George Pellinger, of the Vulcanized Rubber Co. It was agreed that as a third appraiser, Superintendent A. H. Marks, of the Diamond Rubber Co., should be called if Messrs. Wright and Pellinger failed on any point to agree, which, however they did not.

The People's Hard Rubber Co. were incorporated in the spring of 1901 with a capitalization of $200,000. Their factory in South Akron was completed and operations begun a year later. It is believed here that the factory will again be operated, though it is considered likely that the old Goodrich plant of the American Hard Rubber Co. will be closed and that by lease or purchase the buildings will go to The B. F. Goodrich Co., whose premises they adjoin. The People's plant is well equipped with modern machinery, and employed 250 people.

* * *

THE Combination Tire and Rubber Co. are making plans for a reorganization of their company under the same name. Originally incorporated with a capitalization of $100,000, under New York laws, it is now proposed to obtain, instead, an Ohio charter, and fix the capital stock at $30,000. The *personnel* of the company will remain the same, with the exception of the probable retirement of Thomas Clark, of New York, the president. The Akron members of the company say they will be marketing tires for the spring trade.

The Colonial Tire and Rubber Co. have closed a contract with the Oesterreichische Aktiengesellschaft für Gummi-Industrie, by which the latter will manufacture the Swinehart solid rubber tire at their factory near Vienna, on royalty, having the exclusive license for Austria-Hungary. Negotiations are pending with a rubber manufacturing concern in Germany for a similar license for that country, and Russia will next be visited by the Colonial company's representative.

Tire and other rubber manufacturers here are not pleased to note the feeling of resentment against the so-called "American invasion" which is being agitated in Germany. In the discussion of new duty schedules in the German capital it is proposed to make an advance of about 40 per cent. *ad valorem* in the tariff on imported rubber goods.

The organization of the Superior Rubber and Manufacturing Co. of Cuyahoga Falls, was completed at a meeting in that village on December 10. The officers are: W. S. Bailey, of Cleveland, president; W. J. Hart, of Cleveland, vice president; E. M. Young, of Cuyahoga Falls, treasurer; L. H. Whitcomb, of Cuyahoga Falls, secretary. The company will begin with the manufacture of dipped goods and expect to be ready for business before February. Mr. Whitcomb will be in general charge and a practical rubber man will be engaged as superintendent.

Among local manufacturers it is quite definitely understood that Lewis D. Parker, president of the Hartford Rubber Works Co., is to succeed Charles H. Wheeler, resigned, as president of the India Rubber Co. W. L. Wild, secretary of the company, it is understood, is to be the local manager. Their annual meeting will be held in January.

An explosion of chemicals in the dipping department of The B. F. Goodrich Co. at 5.15 o'clock Friday evening, December 12, caused a fire which, though it at no time seriously threatened the main buildings of the plant, destroyed the interior of a small one story brick building in which it started, and kept the fire crew of the company and a crew of city firemen busy for two hours. The chemicals and benzine used in the dipping department made the blaze a difficult one against which to contend, and as the water flowed out of the building burning oils floated upon its surface. Walter Reese, an employé of the Goodrich company, was overcome by the fumes inside the building and was taken out unconscious. He was not seriously injured. The clothing of a lad among the spectators caught fire from the floating chemicals and he was slightly burned. The fire was extinguished without loss to the plant except in the one department.

Betzler & Wilson have had a large holiday trade on fountain pens. The demand for rubber toys also appears to be growing at each recurring Christmas season. The B. F. Goodrich Co. would have been able to sell a great many more of their "Brownies" than they cared to make.

Akron automobile tire manufacturers plan to be generously represented at the automobile show in Cleveland the week of February 22. That city is so near Akron that local rubber people will have something akin to a home interest in the exhibition. Cleveland is rated as the principal automobile manufacturing city of America. Akron will also be well represented at Madison Square Garden in January, and at the Chicago automobile show on February 14–21.

The outlook for bicycle tires grows more and more hopeful. No great revival of the business is looked for, but inquiries and orders are both more numerous than at this time last year.

"Last season it was all price and quality did not count a great deal," said one manufacturer. "This season quality is coming to its own again and the general average will be higher than at any time in the present century."

Taplin, Rice & Co. are receiving many orders for molds for rubber work. They have rarely been so busy in this department.

The Diamond Rubber Co. have established a branch at Cleveland, Ohio, in charge of F. E. Tayloran.

The Goodyear Tire and Rubber Co. are manufacturing for a fire engine of the Paris, France, fire department, a set of endless solid tires, 48 × 6 inches.

The Faultless Rubber Co. are meeting with success with a new parlor ball, which is dipped instead of molded, by which means seams are avoided. That they will not deflate is another claim made for the balls.

The annual art souvenir of The B. F. Goodrich Co. is, as usual, a masterpiece in its way—the portrait of a young woman, by J. Alfred Mohlte, reproduced in colors on heavy paper. The Goodrich pictures are eagerly watched for each year by Akron people as well as by the trade.

Writing to Akron friends, Mr. H. C. Corson, former vice president of The B. F. Goodrich Co., says that he will remain at his summer home in Nova Scotia, communing with nature, enjoying the winds and waves and birds, until February, when he and Mrs. Corson will go to Europe.

The Faultless Rubber Co. closed their factory for inventory December 31, to resume January 5.

The Firestone Tire and Rubber Co. have begun manufacturing their own tires, in an addition to their plant recently completed. The engines were started in the new department on December 22.

Mr. John W. Lyman, manager of the Philadelphia branch of The B. F. Goodrich Co., and Miss Nellie Josephine Dague, daughter of Mr. and Mrs. J. W. Dague, of Akron, were married at the bride's home on the evening of December 10. Their home will be at No. 4311 Fansom street, Philadelphia. Mrs. Lyman has been one of the most prominent members of Akron's younger society set.

Employés of the Alden Rubber Co. have organized a band. The B. F. Goodrich and the Diamond company employés have had each such an organization for some time—the former for many years.

The B. F. Goodrich Co. observed their usual custom of giving every employé a turkey or its equivalent in cash at Christmas. Turkeys were in demand and 1800 were distributed.

GROWTH OF THE AKRON FACTORIES.

THE past year has been one of notable progress in the rubber trade of Akron. Several new companies have been formed and new factories built, besides which nearly all the older concerns have been expanding. There is likely to be less done in the way of new buildings in the coming year, but it is considered probable that the amount of business done will be even greater than during the past twelve months—undoubtedly the most productive in the history of the trade here.

The B. F. Goodrich Co. have just completed a new brick building 360 × 60 feet, five stories above the basement. The shipping rooms will be located in this building, which affords improved facilities, as it stands beside a belt line which reaches all the railroads touching Akron. The Goodrich company have increased their engine capacity by 1500 H. P. and their boiler plant by 2000 H. P. The additions include two steam turbines, which are said to be the first to have been placed in a rubber factory. Another extension made by the Goodrich company has been the purchase of five acres of land, a mile from the main premises, on which two small buildings for experimental purposes have been erected.

The growth of the Diamond Rubber Co. during the year has been marked by the completion of an additional brick building upon its premises, 330 × 80 feet, five stories and basement. The tire departments were removed into this building last February, making room in the older structures for an extension of the manufacture of mechanical goods. An additional engine of 350 H.P., making a total of 35 000 H.P., was installed.

The Goodyear Tire and Rubber Co. are completing and expect to occupy early in January an additional building 300 × 60 feet, of three stories. It is to be used for a general extension of the company's business. An addition of similar size and a pressed brick office building, two stories and basement, were completed by this company in September, 1901.

The Faultless Rubber Co. completed in October an addition 35 × 110 feet, four stories high, and another of two stories, 32 × 50 feet. Still another addition of four stories, 32 × 54 feet will be erected before spring, when the company will put in their own mills and calenders.

Although not an Akron factory, the Camp Rubber Co. are all Akron men. Their factory is at Ashland, Ohio, but their offices are in Akron. In addition to the building now occupied, a four story structure 50 × 150 feet, they will erect at an early date another building 50 × 50 feet, of the same height. They will then place in operation their own mills and calenders.

The Miller Rubber Manufacturing Co. erected during the year an addition partly two and partly three stories, 100 × 124 feet, for a general extension of their present lines.

The Pure Gum Specialty Co., at Barberton, erected two additions—one of brick 40 × 80 feet, and two stories high, and a two story frame structure 30 × 50 feet—and are now at work on a third addition, 40 × 80 feet, of brick construction, and two stories high. The concern was started by H. F. Mitzel, formerly employed by The B. F. Goodrich Co., three years ago, and incorporated December 10, 1900. Last August the capital stock was increased from $20,000 to $75,000.

The Alden Rubber Co., at Barberton, erected an addition of brick 60 × 100 feet and three stories high, putting in machinery for a general extension of their present lines and the manufacture of tiling on a large scale.

The Buckeye Rubber Co., built during the year a one-story brick addition to their warehouse, 100 × 60 feet.

The Stein Double Cushion Tire Co., though incorporated in 1901, did not complete their factory and begin work until June, 1902. Their main building is 220 × 106 feet, two stories high.

The Lyon Rubber Co., with a capital stock of $10,000, is another of the children of 1902.

In the same list are the Summit Rubber Co., capitalized at $25,000 whose factory, a two-story brick building 40 × 80, is at Barberton.

The Colonial Tire and Rubber Co., organized to handle the Swinehart cross wire vehicle tire in Europe, are another 1902 company, but without any buildings in Akron.

The Combination Tire and Rubber Co., organized to make and sell a new vehicle tire, described in THE INDIA RUBBER WORLD for December, and the Superior Rubber Manufacturing Co., of Cuyahoga Falls, mention of both of which companies appears in this issue, were also in the 1902 group of new concerns.

The Peoples' Hard Rubber Co. completed their plant and began operation during the past year, which puts them also in this list.

RECENT RUBBER PATENTS.

THE UNITED STATES PATENT RECORD.

ISSUED NOVEMBER 4, 1902.

NO. 712,507. Process of making dress shields or other waterproof articles. Theron Davis, New York city.

712,610. Golf ball. Anson R. Spear, St. Paul, Minnesota.

712,611. Golf ball. *Same.*

712,634. Exercising apparatus. Richard Aronstein, Goldfield, Colorado.

712,641. Horseshoe pad. Henry Biles, Ealing Dean, England, assignor to James Henry Osborne, London.

712,816. Rubber heel for boots and shoes. George W. Lewton, Des Moines, Iowa.

712,827. Exercising apparatus. George S. Maxwell, Jersey City, and George White, Jr., Madison, New Jersey.

713,006. Pneumatic tire repairing tool. Winfield M. Kimberlin, Akron, Ohio, assignor of one-half to Edward C. Eippert, Akron.

713,017. Syringe. Walter H. Pumphrey, New York city.

Trade Marks.

39,171. Certain named goods and articles made from India rubber and its compounds with their accessories. The Hartford Rubber Works Co., Hartford, Connecticut.

39,212. Rubber tires for vehicles. International Automobile and Vehicle Tire Co , New York city.

ISSUED NOVEMBER 11, 1902.

713,123. Electric conduit. Amanda M. Lougee, Boston, Massachusetts, assignor to Clifton Manufacturing Co., Boston.

713,122. Method of making electric conduits. *Same.*

713,226. Vehicle wheel. George S. Lee, Hawthorne, New Jersey.

713,234. Stopper for hot water bags. Edward E. Menges, New Haven, Connecticut, assignor to the Seamless Rubber Co.

713,351. Pneumatic tire. Charles H. Shepard, North Plainfield, New Jersey.

Trade Marks.

39,227. Antiseptic waterproof sheetings, diapers, and waterproof undergarments. Arthur L. Sweetser, Boston, Massachusetts.

39,228. Certain named rubber goods. The B. F. Goodrich Co., Akron, Ohio.

39,243. Waterproofing compound. Toch Brothers, New York city.

ISSUED NOVEMBER 18, 1902.

713,656. Bathing cap. Frederick G. Littell, Brooklyn, New York.

713,708. Stopper. William G. Spire, Sheridan township, Iowa.

713,716. Cushioned horseshoe. William Thorby, Buffalo, New York, assignor of one half to George Goetz, Buffalo.

713,736. Process of manufacturing rubber. Albert C. Blossier, Paris, France.

713,769. Golf ball. Eleazer Kempshall, Boston, Massachusetts.

713,770. Playing ball. *Same.*

713,771. Process of making golf balls. *Same.*

713,772. Playing ball. *Same.*

713,855. Pneumatic tire. George H. Clark, Boston, Massachusetts, assignor to the Clark Cycle Tire Co.

713,882. Elastic horseshoe. Joseph Hirsch, Kansas City, Missouri.

713,900. Supporting bandage. Lee R. Miller and Emanuel T. Richert, Akron, Ohio.

713,971. Cushion heel plate. Herman F. Dernell, Athens, New York.

ISSUED NOVEMBER 25, 1902.

714,164. Pneumatic tire. Wilbraham Edmund, Ealing, England, assignor to himself, and Alister Macnab, London, England.

714,271. Vehicle wheel. John M. Alderfer, Sharon Center, Ohio.

714,333. Vehicle tire and rim. Franklin G. Saylor, Franklin, assignor of one-half to George H. Morrill, Jr., Norwood, Massachusetts.

714,380. Horseshoe. Alonzo F. Kerns, Chicago, Illinois.

714,528. Means for tightening wires in elastic tires. John E. Sprague, Portage township, Ohio.

714,544. Display box. Herman Wertz, Newark, New Jersey, assignor to Hardman Rubber Co.

714,628. Hose rack. Charles Wright, Everson, Pennsylvania, assignor of one half to James J. O'Shea, Everson.

714,649. Ore conveying surface for electrical separators. Henry M. Sutton, Walter L. Steele, and Edwin G. Steele, Dallas, Texas.

Trade Marks.

39,361. Elastic exercising devices. The Paraco Rubber Co., Cleveland, Ohio.

[NOTE.—Printed copies of specifications of United States patents may be ordered from THE INDIA RUBBER WORLD offices at 10 cents each, postpaid.]

THE BRITISH PATENT RECORD.

[* *Denotes Applications from the United States.*]

APPLICATIONS—1902.

20,615. George Spurgeon, 9, Bulwer road, Leytonstone, Essex. Pneumatic tire. Sept. 22.

20,666. Alexander Thomas Stevenson, 18, Buckingham street, Strand, London. Dress shield. Sept. 22.

*20,749. Charles Edward Thomas, Fife House, Kingston-on-Thames. Pneumatic vehicle tire. (Date of application in United States Sept. 23, 1901.) Sept. 23.

20,827. George Henry Hastings, 43, Gibson square, London. Pneumatic tire for cycles and vehicles. Sept. 24.

20,834. Richard Green, 128, Colmore row, Birmingham. Pneumatic tire. Sept. 24.

20,883. Arthur Keats, Brocton, near Stafford. Tire for bicycle and similar wheels. Sept. 25.

*20,910. William Prampolini, 53, Chancery lane, London. Substitute for India-rubber and method of preparing the same. (Date of application in the United States, Feb. 6, 1902.) Sept. 25.

20,962. William Smith, 141, Leytonstone road, Stratford, London. Pneumatic tire. Sept. 26.

21,100. Ernest Arthur Hilder, 169, Brecknock road, Kentish Town, London. "The Unpunctuable" pneumatic tire. Sept. 27.

*21,109. Eleazer Kempshall, 45, Southampton buildings, Chancery lane, London. Playing ball. Sept. 27.

21,129. Patrick Millar Matthew and Colin Ross Crombie, Glasgow. Golf ball. Sept. 29.

21,244. Harry Panzetta, 167, Inderwick road, Hornsey, London. Appliance for straining and coupling wires for securing rubber tires to wheels. Sept. 30.

21,328. James Healey, Helsby, near Warrington. Machine for insulating wires. Oct. 1.

21,335. William Thomas Percy Taylor, 77, Colmore row, Birmingham. Pneumatic tire. Oct. 1.

21,355. David Basch, 45, Southampton buildings, Chancery lane, London. Dress shield. Oct 1.

21,356. David Basch. *Same.* Oct. 1.

21,371. James Hill Hammond, 322, High Holborn, London. Pneumatic tire. Oct. 1.

21,373. Edwin Midgley, 173, Fleet street, London. Pneumatic tire. Oct. 1.

21,380. Edwin Midgley, 173, Fleet street, London. Pneumatic tire cover. Oct. 1.

21,407. Edward Henry Seddon, Manchester. Pneumatic tire. Oct. 2.

21,410. Richard Frederick Gordon, 9, Tempest Hey, Liverpool. Tire for vehicles. Oct. 2.

21,498. Frank Fayers Kerr, 17a, South Castle street, Liverpool. Pneumatic tire. Oct. 3.

21,575. Reginald Williams, 111, Hatton garden, London. Pneumatic tire. Oct. 3.

21,745. Harold Sandwith, 18, Southampton buildings, Chancery lane, London. Elastic tire for vehicle wheels. Oct. 6.

21,947. Thomas McClelland, Jr., and William Campbell, Glasgow. Golf ball. Oct. 9.

21,957. Medwin Caspar Clutterbuck, Brighton. Pneumatic tire. Oct, 9.

22,033. Thomas Crompton Redfern, Manchester. Detachable rubber heel for boots and shoes. Oct. 10.

22,169. Edward Daniel Wood, 43, Lugard road, Peckham, London. Improvement on chrome tanned leather for use in pneumatic tires and inner bands, for the prevention of punctures. Oct. 11.

22,172. Charles James Grist, 55, Chancery lane, London. Golf ball. Oct. 11.

22,310. William Waters, Manchester. Rubber pad for horseshoes. Oct. 14.

22,368. Charles Thomas Kingzett, 24, Southampton buildings, Chancery lane, London. Improvement in rubbered balls for golf and other games. Oct. 14.

22,555. Isaac Shinwell McDougall, 18, Southampton buildings, Chancery lane, London. Electric insulating material. Oct. 16.

22,556. Isaac Shinwell McDougall, 18, Southampton buildings, Chancery lane, London. Electric insulating fabrics. Oct. 16.

22,581. Thomas Bowman, Cockan, Rowrah, Cockermouth. Punctureless pneumatic tire. Oct. 16.

22,618. Edward Bell Raper, York. Improved method of impressing designs on India-rubber. Oct. 17.

22,662. Henry Jelley and James Jelley, Birmingham. Improvements in pneumatic tire covers and the manufacture thereof. Oct. 18.

22,728. James Ashton, 9, Regent street, London. Tires for vehicles. Oct. 18.

22,848. Charles Edward Bradbury, Manchester. Tire for bicycles and motor cars. Oct. 21.

22,862. Anthony George Lyster, Liverpool. Golf ball. Oct. 21.

22,878. David John Van Praag, 3, Hurdwick place, London. Tire for bicyles and vehicles. Oct. 21.

22,889. Allan Dale, University Mansions, Putney, London. Patch for cycle and motor car tires. Oct. 21.

22,908. Henry Birkbeck, Southampton buildings, Chancery lane, London. Pneumatic tires. [Frank Cory Yeo, Germany.] Oct. 21.

22,973. Franklin Forbes Boyd, South Farnborough, Hants. Cork and rubber tire. Oct. 21.

23,052. Joseph Hubner and Karl Daune, 18, Buckingham street, Strand, London. Tubes for pneumatic tires. Oct. 22.

23,078. William Wallace, Glasgow. Ball for golf and other games. Oct. 23.

23,131. Robert Lamont and Charles Edward Weatherhead, 52, Chancery lane, London. Pneumatic hat block. Oct. 23.

23,238. Frederick Charles Lupton, 1 & 4, Mitre Court chambers, Fleet street, London. Puncture repairing device for pneumatic tires. Oct. 24.

23,243. Herbert Sefton Jones, of W. P. Thompson & Co., 322, High Holborn, London. Insulating material, amd process for manufacturing same. Oct. 24.

PATENTS GRANTED.—1902.

[Complete specifications have been printed of the following patents, since our last report, the numbers and dates given relating to the original applications, noted already in THE INDIA RUBBER WORLD.]

11,578. Pneumatic tire. Karmel, L., Nottingham. June 6, 1901.

11,689. Teeth stopping. Bruhn, C. N. N., Düsseldorf, Germany. June 7, 1901.

11,871. Shaving brushes. Giles, C. T., London. June 11, 1901.

11,887. Golf ball. Crowley, J. S., London. June 11, 1901.

11,906. Pneumatic tire. Walken, G., trading as Adams & Co., London. June 11, 1901.

*11,924. Solid tire. Lahe, H. H., London [Allen, L. E., and Poyser, W. J., Canton, Ohio, United States.] June 11, 1901.

11,966. Pneumatic tire. Black, A., Glasgow. June 12, 1901.

12,094. Electric cable. Tremain, F., Middlesex. June 13, 1901.

12,124. Pneumatic tire, Hifford, A., Leicester. June 14, 1901.

12,211. Pneumatic wheel. Rasmussen, H. P., and Hagerty, W., Southland, New Zealand. June 14, 1901.

12,446. Boot dryer. Burchardt, P., Kramfors, Sweden. June 18, 1901.

*12,626. Tile. Sierer, J. K., New York, United States. June 20, 1901.

12,823. Pneumatic tire. Edmunds, W., London. June 24, 1901.

12,997. Syringe. Ross, J. H. Birmingham. June 26, 1901.

13,046. Waterproof fabric. Haddan, H. J., London. [Société Veuve de Francisco Saus E'Hijos, Barcelona, Spain.] June 26, 1901.

*13,113. Pneumatic tire. Tillinghast, P. W., and Vigneron, A. T., Providence, Rhode Island, United States. June 27, 1901.

13,122. Waterproof coat. Mundin, W. J., London. [Ström, G., and Ström, A., Paris, France.] June 27, 1901.

13,127. Solid tire. Williams, W. F., 4, Denman street, London. June 27, 1901.

13,204. Gutta-percha, obtaining of by the use of solvents. Mitchell, G., 39, Victoria street, Westminster, London. June 28, 1901.

13,374. Bed pan. Houghton, J., Liverpool. July 1, 1901.

13,575. Teat mold. Armstrong, M. D., Essex. July 3, 1901.

*13,642. Solid tire. Carslaw, J. W. D., Chicago, Illinois, United States. July 4, 1901.

13,677. Pneumatic tire. Dessau, M. M., Merton, Surrey, and Reddaway, F., Manchester. July 5, 1901.

13,709. Hose. Le Poidevin, F., Castel, Guernsey. July 5, 1901.

13,734. Solid tire. Marks, G. C., 18, Southampton buildings, Chancery lane, London. [Consolidated Rubber Tire Co., New York, United States.] July 5, 1901.

13,767. Pneumatic tire. Schaefer, O., West Norwood, Surrey. July 6, 1901.

13,843. Pneumatic tire. Mitchell, J., trading as Canvas Manufacturing Co., Manchester. July 6, 1901.

13,858. Method of securing tires. Wingham, W., 94, Wellesley road, Gunnersbury, London. July 8, 1901.

13,870. Bathing cap. Schwalenberg, R., Mannheim, Baden, Germany. July 8, 1901.

THE GERMAN PATENT RECORD.

PATENTS GRANTED—1902.

137,766. Bandages for healing purposes composed of rubber tubes. Heinrich Tauss, Vienna, Austria. Oct. 29.

138,039. Process for making leather soles and heel taps with a film of rubber on either side. Louis Eckhardt, Bad Homburg. Nov 12.

138,180. Pressing roll of hard rubber with a covering of soft rubber for squeezing in the manufacture of paper, colors, and so forth. Gummiwerk Windt, Offenbach o/Main. Nov. 26.

138,232. Pneumatic tire with a protecting shoe of metal segments. Bernard Hippolyte Chameroy, Le Besinet, France. Nov. 26.

PATENTS WITH MODELS FILED.

185,461. Rubber band with clamps on both ends for use as suspenders for cyclists. Paul Griebert, Berlin. Oct. 29.

185,586. Rear part of suspenders, consisting of side strips of leather or other suitable material, moving through cross cuts and made elastic by an interwoven rubber band. Hans A. Frank, Berlin. Oct. 29.

185,758. Rubber shoe for pneumatic tires with interwoven rubber protective plates. August Kurz, Munich-Riesenfeld. Oct. 29.

184,883. Slips (for children) with press button closure and rubber insert in neckband. Herman Daniel, Swinemunde. Oct. 15.

186,608. Textiles provided with rubber backing, whereby ornamental figures or embossings may be made permanent. Bartels, Dierichs & Co., Barmen. Nov. 12.

186,302. Rubber suction piece with celluloid bell, which, by means of a stationary plug, is fastened to the suction handle. Michael Hahn, Munich. Nov. 12.

186,424. Umbrella holder consisting of a rubber band upon which is sewn a metal button, and a metal plate with a corresponding button hole. Mrs. F. Fehser, Berlin. Nov. 12.

186,313. A trough arranged for the artificial rearing of sucking pigs, provided with a number of rubber tubes with nipples on their ends, having automatic closing valves adapted to be regulated from the trough. Hermann Lawrenz, Berlin. Nov. 12.

186,505. Horse's bit, consisting of steel chain and rubber hose with interior spiral protection. Heinrich Sudhaus' Sons, Iserlohn. Nov. 12.

187,089. Corset bodice, with closed back and elastic sides having shoulder straps. Mrs. Hermine Kaiser, Baden, near Vienna. Nov. 20.

186,755. Dress shield with tubular insert for ventilation. B. Röber, Dresden. Nov. 20.

186,802. Boys' suits provided with elastic insertions of rubber at such places as the necessary stretching in the wearing demand. Berliner Knaben Garderoben Fabrik Betriebswerkstätte. J. Russ, Berlin. Nov. 20.

186,806. Dress-supporter, in which the clamps, closed by a spring, are covered with rubber shields. Röderstein and Walter, Barmen. Nov. 20.

186,804. Air pillow, available also as traveling cap, of which the head and side pieces may be inflated independently. Max Weinberg, Fulda. Nov. 20.

186,822. Snake fashioned of rubber hose with pearls, cording twisted lace and tinsel. M. Emil Schiefer, Annaberg. Nov. 20.

187,005. Protecting shoe for rubber tires with ribs running cross and lengthwise. The Dunlop Pneumatic Tyre Co., Limited, London, England. Nov. 20.

187,013. Fork shaped rubber holders, independently attachable to a carrier for supporting pencils to be in an upright position. August Lipnicki, Liesing near Vienna. Nov. 20.

186,741. Holder for shoe maker's wax, made of soft rubber. David Gellenbeck, Düsseldorf. Nov. 20.

187,223. Dress-pants combined with rubber cords passing through rings sewed on inside seam, lift pants by movement of leg. Brüno Krüger, Berlin. Nov. 26.

NEW GOODS AND SPECIALTIES IN RUBBER.

APSLEY ADJUSTABLE INVISIBLE RUBBERS.

THERE are many persons who do not wish to wear ordinary rubber shoes for the reason that they heat and draw the feet. At the same time they are averse to wet feet. Many such have worn heavy soles, so-called waterproof leather, etc. What they have needed, however, is

exactly what is shown in the accompanying illustration. That is, something that protects the sole from the wet, that is so shaped in the shank as to exclude water, snow, or mud, and that does not cover the shoe upper. Rubbers of this kind may be extra tight around the sole and yet be comfortable, for the very good reason that any extra pressure there affects only the solid leather and in no way compresses or covers the foot. This type of shoe is adjustable by the use of a buckle and is made only in full sizes. By the use of the adjustable buckle and the different widths it is possible to fit almost any leather shoe now on the market. [Apsley Rubber Co., Hudson, Massachusetts]

A MASK FOR VARNISHING.

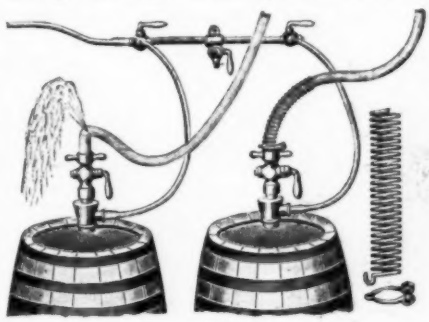
ON account of the fumes arising from work in varnishing, such a mask as is illustrated on this page often proves desirable, and it is mentioned here for the reason that its use is rendered possible only through the employment of rubber tubing. A very wide use of varnishing masks will be found in connection with breweries, for the reason that the insides of beer casks are always varnished, in which work it is necessary for the workman to bend over the barrel, where the fumes are concentrated and protection is especially desirable. This particular mask has been introduced into most of the large breweries in the United States and Canada, all of which manufacture their own casks. The manufacturer is now also introducing it to oil works and manufacturing establishments where such a device can prove useful. A considerable amount of tubing is required on the whole, in making these articles, on account of the length needed for connecting the mask with the fresh air supply. This article weighs 4½ ounces and retails at $10, including the goggles. [E. P. Gallaher, No. 3 Winfield avenue, Jersey City, New Jersey.]

THE "UNIVERSAL" CEMENT.

A CEMENT which appears from the description to be in a class by itself, and which should find a very ready market, particularly among rubber manufacturers and users, is called the "Universal" cement. In the first place, it is a sticker that not only is thoroughly waterproof, but absorbs no water. It has already been applied to rubber, leather, canvas, and cotton belting, wood, and other materials, and not only holds perfectly but is continuously flexible. Hot water or steam do not affect it in the least, and it has been applied as a splice for laundry paper, and saw mill belting—work in which the ordinary leather splice is quickly affected. When used in connection with soling and patching leather shoes it makes practically a one piece sole which gives no sign of weakening under the most severe wear. An unusual point of value with regard to this cement is that it is oil proof. It has been applied to oil free surfaces that are later submerged in oil, the cement not being affected. An unusual test along these lines which was thoroughly successful was its application to leather belts and shoe soles which had been first soaked in oil, where it worked as satisfactorily as if the surface had been dry. With regard to its flexibility, it readily lends itself to the working surface without the slightest tendency to cracking and separation. In strength tests it is said to be the best yet. A 5 inch four ply rubber belt lap, 6 inches long, tested in the machine for measuring tensile strength at the Case School of Applied Science of Cleveland, stood up to 4250 pounds, at which strain the belt broke, without apparent weakening of the splice. The splice was made, by the way, like the ordinary leather belt lap, by skiving for about 5 inches. This test is exceedingly important to handlers of rubber, leather, and cotton belting as it makes it possible to make lap splices as strong or stronger, than the belt itself—a feature of great value. [Ohio Rubber Co., Cleveland, Ohio.]

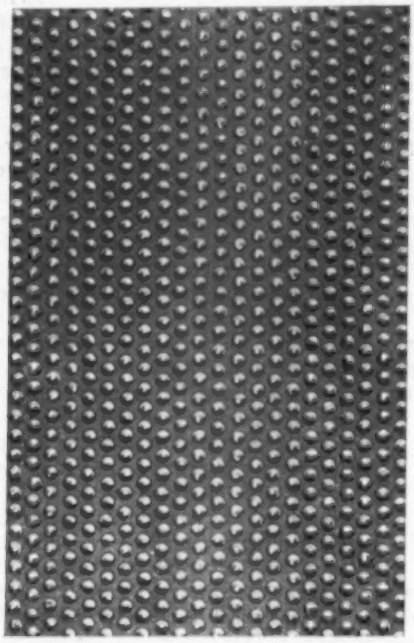
PATENT BEER HOSE PROTECTOR AND CLAMP.

TIME was when trouble was not unusual with beer hose through kinking, and consequent breakage and leakage, as indicated at the left of the accompanying cut. Beside the item of loss of the contents of barrels, was the expense of repairs. To obviate such trouble has been invented the lately patented device shown in the illustration, which consists of a spiral wire for the protection of the hose and a clamp to hold it in position. It is readily adjusted, and permits of the employment of shorter lengths of hose. It is inexpensive and is guaranteed for two years. It is stated by brewers that the least obstruction in the pipes, such as a kink in the hose, will make beer draw foamy and spongy, whereas with a straight, clear opening, the beer will show up rich and creamy. Here is the explanation of much beer being condemned as to quality, the fault being entirely with the condition of the hose. It is stated that more than 20,000 of these protectors are now in use in Chicago alone. [Zimmerman & Rothchild, No. 354 State street, Chicago, Illinois.]



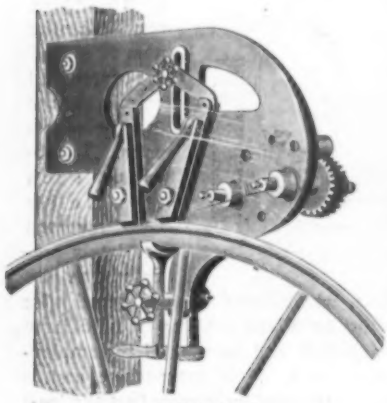
THE "PEERLESS" KNOB STEP MATTING.

A NEW type of matting designed to take the place of the ordinary corrugated article that is so generally sold, is shown in the accompanying illustration. A special advantage of this matting is that it gives much more spring to the tread, is capable of as much, or more wear than the corrugated, and does not have a tendency to collect dirt as does the other. It is made in rolls of any width up to 180 inches, and with initials if desired. [Peerless Rubber Manufacturing Co., New York.]

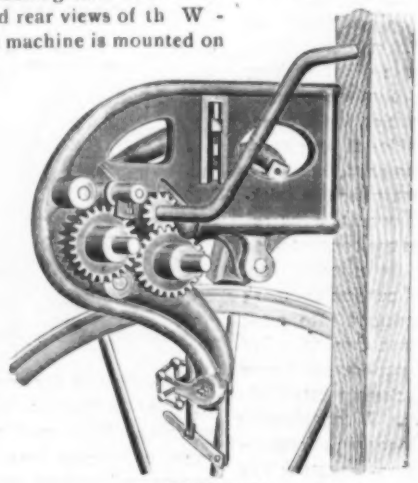


NEW MACHINE FOR PUTTING ON TIRES.

A VERY simple arrangement for attaching solid tires to vehicle wheels is shown in the front and rear views of th W - liams tire machine, on this page. The machine is mounted on a post, to which it is attached by two coach screws. The wheel is then set in a saddle, above which is a hand wheel. The wires are then inserted in the tire, extending about 3 inches at one end, and 18 inches at the other. The wires at one end are then made fast in the clamp and tightened in a jaw; the other end of the tire is brought around the wheel and made fast in another clamp; and then, by the use of a crank pinion, two winding spindles are set in motion, which tighten the wires before cutting, and hold them so that they overlap each other about ⅝ inch, when they may be easily brazed. An idea of the simplicity and effectiveness of the machine, may be gained from the illustrations. [The Williams Foundry and Machine Co., Akron, Ohio.]



FRONT VIEW.



REAR VIEW.

THE "BUCK" TWO-PIECE HORSESHOE PAD.

THE illustration accompanying this sketch shows perhaps as simple a horseshoe pad as has yet appeared and, incidentally, the pad is of low cost. It has already proved its utility and is very generally sold throughout the trade to-day, although it is quite new. It is made in three sizes and two weights, and from these sizes it is possible to fit any sized horseshoe. This pad, by the way, is adapted for use by either road or draft horses. An economical feature and advantage is that either of both halves of the pad can be inserted at any time by any blacksmith. The value of the pad, of course, lies in the fact that it prevents the foot from slipping, furnishes proper support to the frog, and allows of ventilation of the hoof. It is made of the best possible wearing stock and its durability is guaranteed. [The Firestone Tire and Rubber Co., Akron, Ohio.]

NEW TRADE PUBLICATIONS.

VOORHEES RUBBER MANUFACTURING CO. (Jersey City, New Jersey), in issuing a handsome and well arranged catalogue of High Grade Mechanical Goods, call attention to the thirty years' experience in the trade of Mr. John J. Voorhees, the president of the company. The catalogue describes and quotes prices for the staple lines of mechanical goods, and special praise can be given for the clearness of the cuts used in illustrating the various brands of goods described. It is plain that these cuts have been made for their present use, instead of having been borrowed from some out-of-date stock, and they cannot fail to make a favorable impression upon dealers and consumers into whose hands the book may fall. [4½″ × 6¼″. 112 pages.]

THE VEHICLE APRON AND HOOD CO. (Columbus, Ohio), who have been in business since March, 1901, issue a catalogue of a variety of carriage goods which they manufacture from rubber proofed cloth purchased in the East. Such goods are hoods, aprons, storm fronts, and the like, and one specialty of their work is the employment of elastic goring to make aprons for buggies adjustable, and to make hoods fit neatly. [3½″×6½″. 20 pages.]

THE WILLIAMS FOUNDRY AND MACHINE CO. (Akron, Ohio) send us a Catalogue of Tire and Rubber Mold Machinery, devoted especially to their new machines for applying wired on rubber tires. [3¼″ × 6″. 12 pages.]

THE TEXTILE GOODS MARKET.

THE year 1902 has been a record breaker so far as the textile and rubber trades are related. It would be a difficult matter to say just what has been the percentage of increase in the consumption of cotton duck and sheeting during the past twelve months over the previous year, but persons in the best position to speak declare that it has a material one. Furthermore, there is every reason to believe that the coming year is going to be still better. It is an easy matter to forecast the trade in these fabrics, for the consumers base their advance orders upon the consumption during the past year, and from year to year these orders have been increasing until they have now reached a volume nearly 50 per cent. above those five years ago. It merely means that the rubber trade is constantly expanding.

The December number of THE INDIA RUBBER WORLD contained references to a contemplated movement on the part of the Canadian parliament to check the importation of American cotton ducks into the Dominion by placing a 25 per cent. tariff upon the goods. While steps have been taken by American manufacturers to thwart such a plan, it would be premature to make them known at this juncture. It can be said, however, that if the Canadian powers desire to place an embargo upon American goods by instituting new tariff methods, there is nothing that can prevent them, but it is possible to counteract such a duty by inaugurating new methods on this side.

There is constantly growing competition between the manufacturers of rubber belting and the manufacturers of stitched belting. This is true in Canada as well as in the United States, and one of the singular features in connection with the strife for business is the fact that some Americans are working hand in hand with the Canadians. During the past month a company was organized for the purpose of manufacturing stitched belting in the Dominion. It is known as the Stitched Belting Co. and is capitalized at $50,000. Considerable of the stock is held by New Yorkers, who also hold the offices. It is understood that the new concern has been incorporated for the explicit purpose of competing against the rubber manufacturers in Canada. Several harvesting machine concerns in the Dominion are large consumers of rubber belting, and the new company proposes to make a bid for this business. There is no denying the fact that stitched belting is making inroads upon the rubber belting trade, and it is being encouraged by the Canadian manufacturers of cotton duck, who, of course, view the situation from a mercenary standpoint. It will furnish them an outlet for their product, which is now almost a drug on the Canadian market on account of the competition of American goods.

December has not been conspicuous for its sales of cotton duck or lighter weight sheetings. Rubber manufacturers, however, have been calling for the goods which they ordered during the previous month, and these demands have been such that the cotton duck mills have been kept exceedingly busy. It is doubtful if there has been a cotton duck loom idle unless it has been for the want of practical weavers to operate it. Rubber manufacturers seem to be satisfied with the course they pursued in placing their orders for the year last September and October. Were the same contracts to be made on the basis of the raw cotton market to-day it is doubtful if the price would be as low. The most recent report on the raw cotton crop, by Colonel H. G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the 110 days of the present season was 6,130,992 bales, an increase over the same period last year of 127,599 bales. The exports were 3,085,878 bales, a decrease of 39,922 bales; taken by northern spinners, 887,449 bales, a decrease of 32,000; by southern spinners, 754,398 bales, an increase of 76,398. Prices have been gradually creeping up, and the market to-day shows an advance of about twenty-five points over the figures on December 1. The speculation in futures has been only moderately active, but some traders have been inclined to regard the bullish factors in the market with more favor, and their influence has been felt. The receipts have been falling off, and day by day they are growing lighter as compared with last season's showings. Those who care, are left to construe these conditions to mean that the crop is a light one. Those who take a more hopeful view of the situation have not to look far for conditions explanatory of the change. Planters are feeling quite independent and are unwilling to part with their holdings until they feel assured they are getting the best prices consumers are likely to offer. The warring tendencies leave the general market in a rather flat state, and while the trend of prices is upward the movement in that direction is a slow one. Neither spinners nor exporters have been buying freely of late, evidently hoping that the current estimates of a large yield might have the effect of reducing the rates on spot offerings. The following figures show the price of spot cotton at the port of New York, New Orleans, and Liverpool at the close of each week in December:

	New York.	New Orleans.	Liverpool.
December 6	8.50c.	7 15/16c.	4.46*d.*
December 13	8.55c.	8 1/8c.	4.52*d.*
December 20	8.70c.	8 1/4c.	4.52*d.*
December 27	8.75c.	8 1/4c.	4.54*d.*

Boot and shoe manufacturers have bought comparatively little sheeting during the month. There have been an abundance of inquiries for goods, and consumers seem to feel that if they were certain that raw cotton is not going to recede from its present price level they would attempt to cover themselves on the goods they use. The fact that the Chinese buyers have awakened from their lethargy of several months, and are now daily placing orders for heavy brown sheetings and drills, certainly does not have a bearish influence on the goods market. During the past week more than 50,000 bales of these goods were purchased for the Orient, and the movement is keeping up. The chief business has been done in nearly everything from standards up to 3 25 yard goods, and the price paid was close to the asking figure. Sellers became easier to deal with when they saw that exporters were paying all they could afford to, and the result has been to stiffen prices all around. It therefore seems needless for the rubber manufacturer to look for better prices immediately on sheetings. On the other hand, it is more than probable that prices on all cotton goods will remain firm for some time to come. Following are the current quotations for cloths used most by the rubber trade:

Forty inch, 2.50	6¼ cents.
Forty inch, 2 70	5¾ cents.
Forty inch, 2.85	5⅛ cents.
Forty inch, 3 60	4⅝ cents.
Thirty-six inch, 3-yard	5⅛ cents.

AMAZON STEAM NAVIGATION CO.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The directors of the Amazon Steam Navigation Co., Limited, at their meeting to day, have declared a dividend on account of the current year of 2 per cent., or 5 shillings per share, free of Income tax, payable on and after January 6, 1903. The transfer books of this company will be closed from Monday, December 22d inst., to Monday, January 5, 1903, both days inclusive. G. STREET & CO., LIMITED.

30, Cornhill, London, December, 17, 1902.

EXPORTS OF AMERICAN RUBBER GOODS

FISCAL YEAR ENDED JUNE 30, 1902.

EXPORTED TO—	Belting, Packing, and Hose.	Boots and Shoes. Pairs.	Boots and Shoes. Value.	Other Goods Value.	Total Value.
EUROPE:					
Austria-Hungary	$ 591	180	$ 78	$ 3 981	$ 4,650
Azores and Madeira	45	273	154	288	487
Belgium	2,258	81,193	24 119	24,039	52.446
Denmark	6,500	22,171	8 994	6,320	21,816
France	7,881	526,236	185,365	30,588	193,834
Germany	33 080	355 202	129,' 03	159.017	321,309
Gibraltar	...	102	45	375	420
Italy	1,197	5,568	2.187	57,553	60,937
Netherlands	2,287	15,761	5 815	34,111	40,183
Portugal	195	1,772	717	483	1,395
Roumania	....	192	110	..	110
Russia	2,733	...	...	714	3,447
Spain	556	10.379	3 498	590	4,644
Sweden, Norway	4.134	6 348	3,010	7,729	14.873
Switzerland	1,616	21 188	7,931	468	10,015
Turkey in Europe	299	39,585	15,041	....	15.340
United Kingdom	76.126	1,173,494	462,823	647.303	1,186,251
Total, Europe	$139,476	2,259,654	$819,122	$973,569	$1,932,157
NORTH AMERICA:					
Bermuda	$ 1,497	189	$ 155	$ 872	$ 2,524
British Honduras	816	...	...	4	820
Nova Scotia, New Bruns.	9.990	42,050	37 656	4,429	52.045
Quebec, Ontario, etc.	31 665	38,890	19 437	328,658	379,980
British Columbia	33,527	19.187	57.904	19,103	90,534
Newfoundland, Labrador	3,865	15,395	9 346	1,032	14.243
Costa Rica	2,524	48	14	1,969	4,507
Guatemala	4,737	318	791	4,787	10,315
Honduras	2,535	....	...	835	3,370
Nicaragua	2,759	120	40	1,108	3,907
Salvador	5,542	....	....	1,343	6 885
Mexico	124.773	2,503	1 455	92,222	218 450
Miquelon, Langley, etc.	308	2,337	2.089		2,397
West Indies—British	7,899	784	829	5,324	14,052
Cuba	46,160	4 053	2,842	85,844	134,846
Danish	469	377	24	87	798
Dutch	245	6	6	167	418
French	56	...	...	17	73
Haiti	320	135	130	678	1,128
Santo Domingo	2,111	300	1 4	683	2,918
Total, North America	$281,968	126,689	$113,080	$549,162	$944,190
SOUTH AMERICA:					
Argentina	$ 7,880	....	$ ...	$ 6,675	$ 14,555
Bolivia	371	....	....	240	611
Brazil	2 048	2,477	1.594	12.219	15,861
Chile	4,109	774	711	2 413	7,233
Colombia	3,936	1,762	700	3,934	8,630
Ecuador	12 332	228	75	866	13 273
Guianas—British	604	48	63	61	628
Dutch	257	...	...	38	295
Peru	1,669	....	....	4,4 6	6 095
Uruguay	498	1,000	38	482	1 3 5
Venezuela	1.820	60	22	2.811	5 653
Total, South America	$ 35,484	6,749	$ 3,550	$ 35 165	$ 74,199
ASIA:					
Chinese Empire	$ 3,482	2,237	$ 1,716	$ 13 474	$ 18 672
China—Russian	3 225	...	...	561	3,786
East Indies—British	4 000	552	19	3.829	8 024
Dutch	663	....	....	172	835
Hong Kong	1 782	5,468	2 31	5 518	9 612
Japan	21,667	18.861	11.481	81.26	114 411
Korea	....	...	....	287	2 7
Russia, Asiatic	45	....	....	....	4
Turkey in Asia	....	530	264	53	797
Total, Asia	$ 34,864	27,648	$ 15,906	$105,587	$186,417
OCEANICA:					
British Australasia	$ 75,509	156,414	$ 84,860	$ 70,678	$231,047
British Oceanica	....	....	....	320	320
French Oceanica	2 94	84	48	769	3,312
German Oceanica	....	....	....	11	11
Philippine Islands	20 888	3.409	3.790	33.694	58.172
Total, Oceanica	$ 98,891	159,9 7	$ 88,499	$105,472	$ 92,862
AFRICA:					
British Africa—West	$ ...	12	$ 30	$ 17	$ 47
South	38,674	14 499	6,088	11,295	56.057
Portuguese Africa	2,153	....	....	1,175	3 328
Egypt	....	...	...	221	221
Other Africa	2.636	..	..	288	2 924
Total, Africa	$ 43,463	14,511	$ 6,118	$ 12,996	$ 62,577
GRAND TOTAL 1902.	$634.116	2,594,709	$1,046.315	$1 781,941	$3,462,402
Grand Total, 1901	868.726	1,459,100	$724 01*	$1,727,527	$3 017 268
Grand Total, 1900	541 830	767,164	420,746	1,405,212	2,367,788
Grand Total, 1899	...(a) ..	486,586	260,886	1,504.499	1,765.385
Grand Total, 1898	...(a) ..	391,892	224,705	1,499.187	1,723 892
Grand Total, 1897	...(a) ...	366,020	195.499	1,611,646	1,807,145
Grand Total, 1896	...(a) ...	350,713	216,657	1,612,499	1 805,156
Grand Total, 1895	.... (a) ...	383 79*	225,986	1 279,1**	1 505,142
Grand Total, 1894	... (a) ..	261,687	155,011	1,306 831	1 461,842
Grand Total, 1893	...(a)	420,950	252,391	1,367,013	1,609,404
Grand Total, 1892	.....(a)	231,105	185,570	1.232.497	1,418,067

[(a)—Belting, Packing, and Hose were included in the column of "Other Goods. Value," previous to the three past fiscal years.]

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for the first ten months of 1902, compared with the same period of three years preceding, not including exports to Hawaii and Porto Rico:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
January-October	$ 79,903	$139,585	$ 191,991	$ 411.479
October	513,636	718,759	1,467,000	2,699,395
Total, 1902	$593,539	$858.344	$1,658,991	$5,110,874
Total, 1901	502,264	733.329	1,470,164	2,705.767
Total, 1900	443,939	536,878	1,260,961	2,231,778
Total, 1899	(a)206,105	238,815	1,253,388	1.253.388

(a) Included in "All Other" prior to July 1, 1899.

The number of pairs of rubber boots and shoes exported during the ten months was 1,948,294, against 1,799,009, in the same period of 1901 and 1,014,810 pairs in ten months of 1900.

RUBBER GOODS EXPORTS FROM NEW YORK.

VALUES during four weeks ended November 25, 1902:

Aus.-Hung'y	$ 2,092	Dutch W. Ind	$ 29	Portugal	$ 1,001
Australia	8,807	Dan. W. Ind	15	Port. Africa	640
Azores	163	Ecuador	147	Peru	385
Belgium	6,257	France	5,260	Philippines	1.460
Brazil	2,721	Germany	18,383	Russia	80
Brit. Africa	11,484	Great Britain	57,868	Sweden	896
Brit. E. Ind.	803	Haiti	10	San Domingo	268
Brit. W. Ind.	1,621	Italy	640	Spain	115
Brit. Guiana	304	Japan	1,246	Switzerland	555
Central Amer	1,244	Mexico	3,856	Turkey (Asia)	74
Colombia	647	New Zealand	6,115	Venezuela	217
Cuba	10,002	Newfoundld.	959		
China	2,166	Netherlands	6,956	Total	$161,484
Chili	908	Norway	2,746		
Denmark	762	Nova Scotia	1,573		

SUMMARY.

July 2–29 (four weeks)	$117,578
July 30–August 26 (four weeks)	119,103
August 27–September 23 (four weeks)	161,041
September 24–October 28 (five weeks)	208,861
October 29–November 25 (four weeks	161,484
Total	$768,067

RUBBER GOODS TRADE IN JAPAN.

MR. SHIZUO KONDO, of the Japan-American Trade Bureau (Tokio and New York), informs THE INDIA RUBBER WORLD that up to nine or ten years ago such rubber goods as were imported into Japan were almost wholly of British origin. A little later the market began to appeal to German interest, resulting in considerable imports of German rubber goods. After the war between China and Japan, American goods began to attract more attention, and for awhile the first rank in the rubber goods import trade was held by the United States, with Germany second, and Great Britain third. Latterly the volume of American goods received has declined, which Mr. Kondo attributes to the American manufacturers having become too busy with domestic orders to follow up the advantage which they had once gained in the export trade. Mr. Kondo thinks that the demand for rubber goods of all kinds will increase steadily in Japan, and that with adequate attention to the trade the United States could control a much larger share of it. From official statistics quoted by Mr. Kondo it appears that the Japanese imports of "sheet rubber" from the United States amounted to 66,704 pounds in 1899; 96,344 pounds in 1900; and 80,777 in 1901. Rubber belting and hose are not separately reported, being included with leather belting and other appliances for machinery. As for imports of other rubber goods credited to the United States, the value amounted in

1899 to 204,581 *yen;* in 1900 to 332,853 *yen;* and in 1901 to only 162,897 *yen.* [The value of the *yen* in United States gold is about 50 cents.] The rubber industry of Japan continues to grow, the imports of crude rubber officially reported having increased from 77,865 pounds in 1899 to 107,438 pounds in 1900, and 154,924 pounds in 1901.

RUSSIAN EXPORTS OF RUBBER SHOES.

THE exports of "galoshes" from Russia for 1900 are officially stated at an equivalent of 4,960,084 pounds in weight, and $1,685,030 in value. The share going to Germany amounted to 2,709,378 pounds in weight, and $847,881 in value. Hamburg alone imports 1,000,000 pairs of Russian overshoes yearly.

Official Statistics of India-Rubber and Gutta-Percha.—United States.—Fiscal Year 1901-1902.

INDIA-RUBBER.

I.—Imports of Crude India-Rubber, by Countries.

FROM—	Pounds.	Value.
Europe:		
Belgium	5,567,789	$2,962,726
France	178,109	94,197
Germany	1,653,678	713,134
Netherlands	238,625	128,539
Portugal	1,795,051	824,440
United Kingdom	6,114,107	3,039,000
Total	15,547,359	$ 7,762,046
North America:		
British Honduras	34,316	17,072
British Columbia	2,700	250
Costa Rica	119,299	51,286
Guatemala	139,070	55,810
Honduras	83,265	34,684
Nicaragua	732,000	403,710
Salvador	47,825	15,537
Mexico	263,909	101,097
West Indies—British	63,094	24,888
Total	1,485,418	$704,334
South America:		
Brazil	31,531,700	15,743,476
Colombia	409,974	164,674
Ecuador	615,648	250,973
Guiana—Dutch	4,826	2,353
Peru	32,680	21,818
Uruguay	1,507	607
Venezuela	161,207	91,419
Total	31,818,492	$16,275,320
Asia:		
Chinese Empire	2,448	876
East Indies—British	558,621	155,820
Total	561,069	$156,696
Oceanica:		
British Australasia	1,143	834
GRAND TOTAL	50,413,481	$24,899,230
Total, 1900-01	55,275,529	28,455,283
Total, 1899-00	49,377,138	31,376,867
Total, 1898-99	51,063,066	31,707,620
Total, 1897-98	46,055,497	25,386,010
Total, 1896-97	35,574,449	17,457,876
Total, 1895-96	38,774,460	16,603,020
Total, 1894-95	39,741,607	18,353,121
Total, 1893-94	53,757,783	15,077,933
Total, 1892-93	41,547,680	17,609,239
Total, 1891-92	39,976,205	19,718,210

II.—Imports of Manufactures of India-Rubber, by Countries.

[+ Indicates increase; — indicates decrease.]

FROM—	Value.
Austria-Hungary	$ 1,382+
Belgium	21,792+
France	110,850—
Germany	138,608+
Italy	480+
Netherlands	1,680 —
Russia	1,099+
United Kingdom	113,589—
Other Europe	120—
British North America	653—
Chinese Empire	27+
Hongkong	379+
Japan	112+
Other countries	15—
Total, 1901-02	$449,756—
Total, 1900-01	478,663
Total, 1899-00	564,083
Total, 1898-99	379,309
Total, 1897-98	309,247
Total, 1896-97	297,953
Total, 1895-96	294,228
Total, 1894-95	315,902
Total, 1893-94	309,308
Total, 1892-93	338,435

INDIA-RUBBER.

III.—Imports of Crude India-Rubber, by Customs Districts.

AT—	Pounds.	Value.
Boston	2,044,435	$ 1,001,120
New York	47,706,856	23,585,953
Philadelphia	17,353	8,029
Mobile	3,800	1,618
New Orleans	435,994	247,512
Alaska	2,700	250
San Francisco	176,567	55,204
Buffalo Creek, N. Y.	1,200	121
Other ports	1,565	390
Total	50,413,481	$24,899,230

IV.—Imports of Manufactures of India-Rubber, by Customs Districts.

AT—	Value.
Baltimore	$ 6,833
Boston	57,431
Newport News	3,066
New York	320,835
Philadelphia	13,226
Porto Rico	2,431
San Francisco	9,476
Chicago	25,793
Cincinnati	2,382
St. Louis	2,635
Other ports	5,727
Total	$449,756

V.—Exports of Manufactures of India-Rubber (and Gutta-Percha), by Customs Districts.

FROM—	Belting, Packing, and Hose.	Boots and Shoes.	Other Rubber Goods.
Baltimore	$ 43	$ 416	$ 6,226
Bangor	2,215	3,474	1,176
Boston and Charlestown	12,428	529,114	333,191
New York	408,964	429,942	907,780
Passamaquoddy	1,061	1,060	105
Philadelphia	226	3,063	282
Portland and Falmouth		24	311
Galveston	8		
Key West	129		108
Mobile	270	199	79
New Orleans	16,035		15
Arizona	11,529	308	6,945
Corpus Christi			14,373
Paso del Norte	24,351		17,992
Saluria	15,152	15	10,674
Alaska	8,457	14,641	928
Puget Sound, Washington	15,559	23,263	14,536
San Diego, Cal.	800	16	259
San Francisco, Cal.	82,111	11,581	132,942
Buffalo Creek			50,015
Cape Vincent			506
Champlain	1,603	213	50,141
Chicago			10
Cuyahoga	334		5,436
Detroit	7,668		28,604
Genesee			216
Huron	327		9,501
Memphremagog	5,219	11,896	5,583
Miami	135		
Montana and Idaho	11		
Niagara			103,645
North and S. Dakota	5,497	1,648	5,615
Oswegatchie	1,299		10,748
Oswego			56
Sandusky		$	
Superior	633	55	508
Vermont	13,082	5,970	64,163
Total	$634,146	$1,046,315	$1,781,941

GUTTA-PERCHA.

I.—Imports of Crude Gutta-Percha, by Countries.

FROM—	Pounds.	Value.
Belgium	2,697	$ 1,537
France	220	174
Germany	208,302	101,547
Netherlands	1,125	736
United Kingdom	189,731	132,552
East Indies—British	122,910	15,746
East Indies—Dutch	152	37
Total, 1901-02	525,767	$252,329
Total, 1900-01	280,560	130,957
Total, 1899-00	427,678	178,616
Total, 1898-99	518,939	167,577
Total, 1897-98	636,477	129,381
GUTTA-JULETONG (PONTIANAK).		
United Kingdom	45,069	$ 2,148
East Indies—British	16,805,752	499,270
Total, 1901-02	16,850,821	$501,418
Total, 1900-01	9,371,087	248,838

NOTE.—About 60 per cent. in volume and 80 per cent. in value of the Gutta-percha imported arrived at New York, and the remainder principally at Boston. Of the Pontianak 16,644,731 pounds arrived at New York, 112,289 at San Francisco, and 93,801 pounds at Boston.

II.—Imports of Manufactures of Gutta-Percha, by Countries.

FROM—	Value.
Austria-Hungary	$ 28
Belgium	3,307
France	9,249
Germany	101,744
Netherlands	4,685
United Kingdom	7,193
British Columbia	365
Cuba	6
Total, 1901-02	$127,780
Total, 1900-01	163,337
Total, 1899-00	254,332
Total, 1898-99	115,782
Total, 1897-98	156,197
Total, 1896-97	97,194

RECLAIMED RUBBER.

Exports of Reclaimed Rubber, by Countries, for Four Years.

TO—	Value, 1898-99.	Value, 1899-00.	Value, 1900-01.	Value, 1901-02.
Austria-Hungary	$	$8,498	$	$ 10
Belgium	2,764	1,200	703	1,220
France	9,606	2,270	13,220	38,310
Germany	30,766	56,263	48,419	20,191
Italy	6,890	16,119	17,604	12,291
Netherlands	463	2,923	2,734	6,550
Denmark				2,809
Russia	2,000	2,033	575	
Spain	146			5,552
Sweden-Norway	8,525	6,149	10,103	18,318
Great Britain	110,747	125,902	295,409	$20,844
Canada	168,568	259,476	200,422	143,276
Mexico	24,653	9,226	1,072	42
Japan	1,330	2,214	2,830	175
Other lands	138	60	442	40
Total	$376,962	$492,284	$642,063	$569,898

[Exports, 1896-97, $119,440; 1897-98, $257,629.]

NEWS OF THE AMERICAN RUBBER TRADE.

RUBBER GOODS MANUFACTURING CO.

THE policy of reorganization of the Rubber Goods Manufacturing Co. referred to in these pages last month has since been more fully carried out through the placing of Mr. Charles H. Dale at the head of the mechanical rubber goods production of the leading factories controlled by the organization, just as Mr. Lewis D. Parker had previously been placed in charge of the tire branch. Mr. Dale was already president of the Peerless Rubber Manufacturing Co. He has been elected president also of the New York Belting and Packing Co., Limited, and of the Mechanical Rubber Co.—the latter embracing a number of constituent companies—and a vice president of the Rubber Goods Manufacturing Co., and will be made a director in the Stoughton Rubber Co. This will give Mr. Dale complete charge of the mechanical goods work of all the allied companies, giving them the benefit of the same methods of management that have proved so successful in the case of the Peerless company, and at the same time eliminate a certain degree of friction which was inevitable so long as the various companies occupied the position, to a certain extent, of competitors. It is safe to say that under the new arrangement the policy of the company will be in the direction of fair prices for good goods, and a competition based upon quality rather than quantity. There are evidences that the new move is regarded with favor by those companies on the outside whose preference is for competition of this sort.

CHARLES H. DALE.

The history of Charles H. Dale, in connection with the rubber business, is an exceedingly interesting one, and is practically the history of the Peerless Rubber Manufacturing Co. which, starting on a small scale, has grown to be one of the most profitable mechanical rubber establishments in the world. For years the Peerless company has been a great money maker and incidentally Mr. Dale himself has accumulated a large fortune. Personally he is a solidly built, active, aggressive man, with an abundant fund of good nature, with a frankness almost akin to bluntness. He is not in the least visionary, never seeing rainbows (with the exception, perhaps, of "Rainbow" packings), and is a man who does business on business principles every day in the week. When congratulated upon his new position he insisted that he wore a hat of exactly the size as for several years past.

Mr. Dale is not only a typical American, but a typical New Yorker. The son of a New York physician, he was educated in the public schools of the city, taking a semi-collegiate course with the idea of studying law, but his personal impulse was in favor of railroad work, and he kept at his father until he was allowed to follow his bent. A warm friend of the family, Mr. S. S. Merrill, general manager of the Chicago, Milwaukee and St. Paul railroad, took the boy in hand and, in order to test him, started him out one dark rainy night as brakeman on a freight train. It was no doubt something of a surprise to the youngster, who had planned soon to be general manager of the line, but he stuck to his post and in due time got to be conductor, and later superintendent of the transportation. He made a study of railroad equipment and that brought the rubber business to his attention, and before long he gave up railroading and joined the Peerless Rubber Manufacturing Co. as salesman. In this field he showed great capacity for developing the best things that the Peerless had in the line of their specialties. He became manager of sales, and a large stockholder, and later president of the company.

The securities of the real estate syndicate held by the Rubber Goods Manufacturing Co., and which were regarded by the interests which lately came into control of the company as an undesirable asset for a manufacturing corporation, have been taken over by a syndicate headed by Mr. August Belmont, at a consideration of $750,000. Of this amount $400,000 has been paid into the treasury of the company, and the remaining $350,000 is due to be paid on January 10, thus placing the Rubber Goods company in a more satisfactory financial condition.

BOSTON BELTING CO.

AT the annual meeting of the shareholders in Boston on December 1, the following directors were elected: James Bennett Forsyth, James Pierce, George A. Miner, J. H. D. Smith, George H. Forsyth, Charles H. Moseley, and Lewis M. Crane. J. H. D. Smith was reëlected treasurer; Edward Upham, clerk; and Thomas Lang and Thomas Lang, Jr., auditors. During the year quarterly dividends of 2 per cent. were paid as usual, and subsequent to the date mentioned dividend No. 133 was declared, payable January 1.

BOURN MAKING INSULATED WIRE.

THE Bourn Rubber Co. (Providence, Rhode Island), as already announced, have begun the manufacture of insulated wire on quite a large scale. While the raw stock is prepared in the factory devoted to the manufacture of rubber boots and shoes, a large separate building has been acquired for the installation of the tubing machines, braiders, and appliances necessary to the production of all sizes of rubber covered wire, except large cables. The new department is now running successfully, ninety braiding machines, manufactured by the New England Butt Co. (Providence), having been installed.

STANDARD UNDERGROUND CABLE CO.

THE erection of what is said to be the largest and most modern plant in the United States for rolling copper rod, drawing bare wire, and insulating weatherproof wires and cables, has about been completed for this company, in addition to their large factory for underground cable work and rubber insulated wire and cables at Perth Amboy, New Jersey. The rod mill was started on November 25, the wire mill is now in operation, and the weatherproof factory is expected to be by February 1. The capacity of the rod mill is 3,000,000 pounds per month;

that of the wire mill 2,000,000 pounds working single turn; and that of the weatherproof factory 500,000 pounds of wire and cable, working single turn.

THE INDIA RUBBER AND INSULATED WIRE CO.

THE company are just completing a three story addition to their factory at Jonesboro, Indiana, 30×100 feet, the first floor to be used for a tinning room and the second and third floors for drying rooms. They have recently added to their equipment several new mixing mills and another calender. Within the past six months they have increased their braiding facilities about 20 per cent.

KOKOMO RUBBER CO. (KOKOMO, INDIANA.)

NEW machinery has been installed in the additional factory building completed about two months ago, all the old machinery was overhauled during the recent shutdown, and the factory is now at full capacity on contracts for the coming season. Their contracts for solid rubber vehicle tires are on a larger scale than at any time in the past. The company are understood to have had a very prosperous year.

ALLING RUBBER CO.'S FIFTH STORE.

THE Alling Rubber Co., of New Haven, Connecticut, have purchased the retail store of the Crown Rubber Co., No. 52 Asylum street, Hartford, and will continue the business under the name Alling Rubber Co. It will be in charge of Amos P. Mitchell, who becomes associated as a partner in the Alling Rubber Co. This makes five rubber stores in Connecticut conducted by the Messrs. Alling. The oldest is that at Norwich. In 1895 a second was opened at Bridgeport, followed by stores at Stamford and New Haven.——Arthur P. Towne, the late owner of the Crown Rubber Co., has opened an office in the Catlin building, Hartford, for wholesaling rubber hospital supplies.

THE RUBBER INDUSTRY AT NAUGATUCK.

A LOCAL newspaper reports that never before in the history of Naugatuck has business been so brisk in the rubber factories there. Work has been steady, and wages satisfactory, and the opinion is expressed that any suggestion of a strike would be regarded with little favor by the rubber workers. There has been no rubber workers' union at Naugatuck since the strike of 1886, when the Knights of Labor were quite strong there. The strike was speedily settled and the labor organization soon came to an end.

THE INDUSTRY AT AKRON.

THE present season is reported to be an exceptionally busy one for the Akron rubber factories. One superintendent, quoted by a correspondent of THE INDIA RUBBER WORLD, says that there has been no dull time at his factory during the past summer and autumn, as has been the case in some years, and that they had such an unlooked for rush of work that they were caught unprepared and had to pick up washed rubber from any source that it could be bought for. They found also that the other factories had a similar experience. The large factories have all been running day and night shifts.

HOOVER-BALL CO. (NEWARK, OHIO).

THIS firm, organized January 1, 1902, to do a jobbing business in bicycles, bicycle sundries, tires of all kinds, druggists' sundries, and other rubber goods, was incorporated without change of firm style December 1, under New Jersey laws, with $25,000 capital. Harry J. Hoover, who has been elected president of the corporation, imported from England the first safety bicycle ever sold at Newark; in 1892 he opened the Newark Cycle Store, for a retail trade, which, in 1899, became the Newark Cycle Supply Co., wholesale and retail, with Eugene F. Ball associated with the business as manager. The retail branch was discontinued a year ago, and the subsequent changes are recorded above. Mr. Ball is still connected with the business, being secretary and treasurer of the new company. The rubber goods handled bear the brand "Avalon," and are made for the company, mostly at Akron. Mr. Hoover is also cashier of the Licking County Bank and interested in other business enterprises. Two traveling salesmen are employed: G. O. Simmons, of Bucyrus, Ohio, and James Fintze, of New York, the latter having been at one time a salesman for Morgan & Wright tires.

L. K. MC CLYMONDS LEAVES THE RUBBER GOODS.

AT a meeting of the Mechanical Rubber Co., held on December 8, Mr. L. K. McClymonds resigned as a director, president and general manager of that company, and as director and officer of its several allied companies. In accepting his resignation the board adopted the following resolution:

Resolved, That in accepting the resignation of Mr. L. K. McClymonds as president and a director of this company, the board of directors place on record their appreciation of Mr. McClymonds's services to the company. He was one of the most important founders of the company; has been its manager and a director, and vice president or president from its organization. He has served the company with marked ability, energy, and integrity, and we believe that it is largely owing to his efforts that the company's business has reached its present earning power and prosperity.

In 1873 Mr. McClymonds began his career in the rubber business by assuming the management of the Cleveland Rubber Co., whose sales were then less than $30,000 per year. In 1878 he organized the Chicago Rubber Works. In 1892 he was instrumental in consolidating these two companies with the New York Belting and Packing Co., Limited, the Stoughton Rubber Co., and the Fabric Fire Hose Co., under the name of the Mechanical Rubber Co., of which he was made general manager, and moved to New York. In 1899 the Rubber Goods Manufacturing Co. was formed, taking over the Mechanical Rubber Co. and its allied companies, and other rubber manufacturing companies. Mr. McClymonds's management of these companies has always been able and aggressive, resulting in a remarkable growth of business. Their aggregate sales now run into the millions, and their yearly earnings are larger and they are in a more prosperous condition than ever before in their history. His policy has always been broad and liberal to secure outlets for goods, that the factories could be operated to their full capacity, and produce goods at lowest cost. He has also recognized the tendency of maker and consumer to come into closer relations by distributing goods through the companies' own stores located in all the important points in the country.

METROPOLITAN RUBBER CO. (WALLINGFORD, CONN.).

IN the Connecticut superior court, at New Haven, on November 26, Alfred N. Wheeler, an assistant state attorney, was appointed a committee to hear and determine the merits of the claim of Charles A. Place, of New York, in his suit for $27,000, alleged to be due him as salary unpaid as president of the Metropolitan Rubber Co., for three years ending March 1, 1900. On April 11, 1902, application for the appointment of a receiver for the Metropolitan Rubber Co. was made by Wilmot R. Evans and two others—trustees under the will of Abner J. Tower, former treasurer of the company and holder of 6700 of the 10,000 shares of its capital stock—and for the winding up of the affairs of the company, which then had been out of business for two years. George N. Gunn was appointed receiver. The suit of Mr. Place, brought originally in the New York supreme court, was transferred in February, 1902, to the United States circuit court for the southern district of New York. The motion for the appointment of a committee by the Connecticut court,

above noted, was made on the motion of Receiver Gunn, and against the contention of the attorneys for Mr. Place that the court had no jurisdiction, their client's suit having been filed in another court.

RUBBER TRADING CO. (NEW YORK).

MR. WILLIAM T. BAIRD has issued a circular letter to the trade, as follows:

"I beg to announce that after nearly thirty years' service with the New York Belting and Packing Co., and with the Mechanical Rubber Co. since its organization, I dissolved my connection with these companies on December 1 in order to assume the presidency of the Rubber Trading Co. In addition to my other duties, I have for many years purchased all the crude rubber used by the above mentioned companies, and with the knowledge and experience thus acquired, I have decided to enter the crude rubber business and have assumed the management of the Rubber Trading Co., jointly with my brother, Mr. Robert B. Baird, who has been actively connected with the crude rubber trade for the past twelve years."

At a meeting of the shareholders on December 11 the capital of the company was increased to $50,000, which amount, it is stated, has been fully paid, in cash.

MR. REIMERS RETIRES.

THE copartnership firm of Reimers & Co., crude rubber merchants, No. 67 Pine street, New York, ceases on this date by the limitation of time, and the business will be continued at the same address under new articles of copartnership by Poel & Arnold, Mr. Hermann Reimers retiring. The capital of Heilbut, Symons & Co. (Liverpool), as special partners, will remain in the firm. Messrs. Frank Poel and Charles H. Arnold, the new general partners in the firm, have long been connected with the house and enjoy a wide and favorable acquaintance with the trade. Mr. Arnold hitherto has represented the house in Boston, but hereafter will be found at the New York office. Mr. Reimers began his connection with the house in May, 1876, at which time the business was conducted under the name of E. Marcus. The style of the business was changed subsequently to Charles Loewenthal, Charles Loewenthal & Co., Reimers & Meyer, and, on January 1, 1900, to Reimers & Co. Mr. Reimers retires to enjoy a respite from business in travel in Europe, after a quarter of a century of unremitting work which has brought a liberal measure of success.——The Boston office of Poel & Arnold will be in charge of E. E. Wadbrook.

NOT READY TO ADOPT METAL HOSE.

APROPOS of a report that the fire department of Pittsburgh, Pennsylvania, would substitute metal hose for the rubber suction hose now used to connect fire engines with hydrants, Mr. A. H. Leslie, director of the Pittsburgh department of public safety, advises THE INDIA RUBBER WORLD: "While there is a section or two of the metallic suction hose for fire engines on exhibition at Speck-Marshall Co.'s office in this city, we have not been considering its adoption, as it is yet an experiment and rather expensive." The cost of the metal hose is reported to be $12.50 per foot—double the cost of rubber, or more. It is claimed that only 8 feet lengths would be needed, whereas 10 feet of rubber would be needed, besides which the metal hose is so much more durable as to make it, in the end, cheaper than rubber.

STANDARD LUGS FOR RUBBER TIRES.

MENTION has been made already in THE INDIA RUBBER WORLD of the standardization of steel channels for rubber carriage tires, to the mutual advantage of everybody concerned. A similarly desirable result has attended the movement in progress for sometime past in the direction of adopting a standard method of spacing lugs and of determining the number of them to be used in rims for single tube tires. The National Association of Automobile Manufacturers has adopted as its standard the following regulation: "For rims 26 and 28 inches in diameter, five lugs placed 25 degrees, 98 degrees, and 180 degrees, on each side of the valve; for rims 30, 32, 34, 36, and 38 inches in diameter, eight lugs, placed 25 degrees on each side of the valve, then 40 degrees and 50 degrees alternately." This action has been taken after correspondence with various tire makers, and its object is to avoid the inconvenience resulting from attempting to fit a tire to a rim designed for a different number of lugs than are contained in the tire.

AUTOMOBILES AT MADISON SQUARE GARDEN.

FROM the interest manifested by exhibitors and the trade in the third annual automobile show to be opened on January 17 at Madison Square Garden, New York, it is probable that this will prove the most extensive and successful exhibition of motor vehicles and accessories yet held in the United States. Practically all the available space has been allotted and not only will the leading American manufacturers be represented, but also a number of foreign concerns. The manufacturers of rubber tires have arranged to be prominently represented, including—

The Consolidated Rubber Tire Co.....New York.
Diamond Rubber Co.....Akron, Ohio.
Firestone Tire and Rubber Co.....Akron, Ohio.
G & J Tire Co.....Indianapolis, Indiana.
The B. F. Goodrich Co.....Akron, Ohio.
Goodyear Tire and Rubber Co.....Akron, Ohio.
Hartford Rubber Works Co.....Hartford, Connecticut.
International Automobile and Vehicle Tire Co.....New York.
Metallic Rubber Tire Co.....New York.

CONSOLIDATED RUBBER TIRE CO. (NEW YORK).

THE protest of this company—which is a New Jersey corporation—against the amount of state taxes assessed against it in Ohio was overruled in a decision by the secretary of state announced on November 26. The company sought to have the assessment reduced on the ground that the greater part of its assets consists of trade marks and good will. The secretary of state holds that the value placed upon good will and trade marks must be computed as part of the actual valuation of the company's property, and that a proportionate share of this must be allotted to the company's manufacturing plants in Ohio. As many other foreign corporations have claimed a similar exemption, the new decision will have the effect of largely increasing the revenues of the state of Ohio.

THE STATUS OF THE GRANT TIRE PATENT.

THE fact was reported in the last INDIA RUBBER WORLD that the United States supreme court had denied the application of the Rubber Tire Wheel Co. for a writ of *certiorari* to bring before it for review a decision of the United States circuit court of appeals for the sixth circuit, in the case of that company against The Goodyear Tire and Rubber Co., respecting the validity of the Grant patent on solid rubber tires. This fact has been widely regarded in the trade as definitely settling the litigation on this point, as if the refusal of the supreme court to review the decision rendered at Cincinnati in May last had the effect of sustaining that decision. It appears, however, that an absolutely final disposition of the matter has not yet been reached. It will be remembered that decisions favorable to the Grant patent have been rendered in more than one United States circuit court in other jurisdictions. If an appeal should be taken from one of these decisions to the appellate court in the appropriate circuit, and such decision should be affirmed in that court, the situation would exist of the Grant

patent being held invalid in one appellate circuit and valid in another, in which event the United States supreme court would be obliged to give a hearing to the matter if called upon to do so. As the matter stands, the assailants of the patent hold a decision from the highest court that has pronounced judgment, and any further step will have to be taken by the parties adversely affected by that decision, who are the Consolidated Rubber Tire Co. They have given no public intimation of what their further course may be.

NEW YORK STOCK EXCHANGE QUOTATIONS.

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 22	525	17⅛	16	510	54	52½
Week ending Nov. 29	100	17	17	10	52½	52½
Week ending Dec. 6	50	15⅞	15⅞	395	52¼	51
Week ending Dec. 13	4,880	16¼	14½	930	50½	49½
Week ending Dec. 20	845	15¼	14⅜	1,163	52	50¼

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High	Low.
Week ending Nov. 22	5,450	24¼	20½	800	72¼	71
Week ending Nov. 29	815	22	21¾	430	72	70⅜
Week ending Dec. 6	2,825	23¾	21½	355	71	68¼
Week ending Dec. 13	4,280	23	20⅛	450	70¾	68
Week ending Dec. 20	1,480	22	21	967	70	69½

NEW ENGLAND RUBBER CLUB.

THE club is now certain of a place in the World's Hall of Fame, for Frank E. Buttolph, who created the famous Buttolph collection of *menus* at the New York Public Library, writes asking for two *menus* of the club's recent Thanksgiving dinner, saying: "It is very novel, and certainly unlike anything I possess, though variety is a distinguishing feature of my large library collection. I would greatly like to send one to the British Museum in London and keep the other here."

RUBBER TRADE ON THE PACIFIC COAST.

THE Gorham Rubber Co. (San Francisco, California) are now occupying one of the finest office and warehouse buildings in the city. With the new lines that they take up on January 1st they will occupy four floors each 40 × 137 feet. The San Francisco store and the branch at Seattle, employ some twenty men, the latest addition to the force being Mr. F. G. Sargent who for many years past has been with the Goodyear Rubber Co., of San Francisco.

CHEWING-GUM INDUSTRY AT PITTSBURGH.

A CHEWING GUM manufactory, independent of the American Chicle Co., is in operation at Pittsburgh, Pennsylvania, in addition to the one at San Francisco, mentioned in this paper last month. It is that of The Chuddy Manufacturing Co., started under private ownership in 1889 and incorporated under Pennsylvania laws in 1901. The officers are Charles H. Humbert president; William K. McGinness, treasurer; and Frank W. Smith, secretary. The address is No. 3 Barker place.

THE L. CANDEE & CO. (NEW HAVEN).

THE factory of this company was reported recently to have 1700 names on the pay roll, and to be in need of more experienced rubber workers than could be found. The orders received during the month past had exceeded by 50 per cent. the capacity of the factory. A similar condition is reported from other factories. The weather of late has stimulated the buying of rubber boots and shoes, besides which dealers in many sections had begun the season without left over goods. The number of orders on hand at the various factories insures plenty of work for several months to come.

AMERICAN BELTING CO. (YOUNGSTOWN, OHIO).

J. EDWIN DAVIS has retired from the Republic Rubber Co., to devote his entire time to the American Belting Co., incorporated May 23, 1901, with $50,000 capital, to manufacture canvas stitched belting. Mr. Davis is president of the company and William W. Hunter, who has been with the company from the beginning, is treasurer and manager. The company's business in stitched belting is now double what was originally planned, and the capital will be increased with a view to adding a rubber molded goods department.

AMERICAN BICYCLE CO. REORGANIZATION.

NOTICE has been given that the reorganization committee of the above company—now in the hands of receivers—representing large amounts of its debentures and preferred and common stock, have adopted a plan and agreement of reorganization which is filed with the Central Trust Co. of New York, at No. 54 Wall street. The holders of the company's securities are invited to deposit the same with the Trust company not later than January 7, 1903, in exchange for negotiable receipts. When, in the judgment of the committee, a sufficient amount of securities shall have been deposited, the plan will be declared effective. Upon the purchase of the properties of the American Bicycle Co. by the committee, under the provision of the agreement, a new company is to be organized to acquire such property, which will authorize the issue of $2,500,000 in 6 per cent. cumulative first preferred stock; $10,000,000 in non-cumulative 6 per cent. preferred stock; and $10,000,000 in common stock. Holders of the present 5 per cent. debentures are to receive 100 per cent. in new second preferred stock; holders of present preferred stock to receive, on payment of $9 per share, $9 in new first preferred stock and $50 in new common stock; holders of present common stock to receive, on payment of $9 per share, $9 in new first preferred stock and $25 in new common stock. The present capital and debentures of the company amount to $36,146,400, requiring annually for interest, preferred dividend, and sinking fund $1,358,143. Under the proposed reorganization there will be a capital of $22,500,000 with a requirement of $750,000 for preferred dividend instead of the old annual charge of $1,358,143. The proposed payments by stockholders would yield $2,428,676 in cash, which would provide for the outstanding debts of the company and of the constituent corporations, and leave more ample working capital than the company have had hitherto. It is stated that Colonel Albert A. Pope, who is a larger holder of the company's bonds than any other individual, is in favor of the adoption of the reorganization plan, but that the plan will be strongly opposed. There has been a widespread feeling that Colonel Pope will be chosen as the head of such company as ultimately may be formed to succeed the present American Bicycle Co.——The table which follows is a record of transactions on the New York Stock Exchange in the company's securities for several weeks past:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Nov. 8	700	1	⅞	....	....	....
Week ending Nov. 15	600	1¼	⅞	....	....	....
Week ending Nov. 22	4100	1⅜	1⅛	1700	6	4
Week ending Nov. 29	1500	1½	1⅜	175	5⅓	5½
Week ending Dec. 6	1600	1¼	½	3285	6	4
Week ending Dec. 13	3750	¾	⅝	1000	4	2½
Week ending Dec. 20	900	½	¼	....	....	....
Week ending Dec. 27	1900	½	¼	300	2½	2

TRADE NEWS NOTES.

THE Hodgman Rubber Co. (New York) will remove on February 1 to larger premises a little farther up town, at Nos. 806-808 Broadway—opposite Eleventh street.

=The Omo Manufacturing Co. (Middletown, Connecticut) on December 1 reduced their working day to 9 hours, day hands to continue to receive 10 hours' pay. Hands employed on piece work will also have an incease in pay.

=Bowers Rubber Co. (San Francisco, California) have established a distributing bureau for their products in Boston, at No. 242 Purchase street, with Caspar M. Brown as manager.

=The National India Rubber Co. (Bristol, Rhode Island), are reported to have been so active of late in making rubber shoes that it was necessary to draw help from the departments of the factory.

=Alexander M. Bartow, for several years cashier and confidential man for W. R. Brixey, manufacturer of "Kerite" cables (New York), is reported to have been missing for some time, while the books of the concern show a shortage of several thousand dollars, with which he is charged.

=The Goodyear Rubber Co. have installed a new 250 H. P. boiler in their factory at Middletown, Connecticut, which increases their boiler capacity to 650 H. P.

=The Lawrence Felting Co. (Millville, Massachusetts) are erecting an iron water tower to be 180 feet high, with a tank holding 50,000 gallons of water, to supply their sprinkler system and that of the Woonsocket Rubber Co.'s boot factory, near by.

=Standard steel channel for solid and cushioned rubber tires, embodying the ideas illustrated in THE INDIA RUBBER WORLD of September 1, 1902 (page 377), is being supplied by the Railway Steel-Spring Co., of Detroit, Michigan.

=The H. W. Johns-Manville Co., asbestos manufacturers of New York, with $3,000,000 capital, have been admitted to do business in Ohio as a foreign corporation. Their office in that state is at Cleveland, and their agent upon whom process may be served is Harry Gillett, of that city.

=Rubber pad carriage steps are being manufactured by The Cleveland Hard Rubber Co., of Cleveland, Ohio.

=The Connecticut trade in Kelly-Springfield solid rubber tires hereafter will be supplied direct by the Consolidated Rubber Tire Co.'s New York branch office—No. 1784 Broadway—instead of through the Springfield Rubber Tire Co., New Haven.

=The town of Beaver Falls, Pennsylvania, has awarded a contract to the Eureka Fire Hose Co. (New York), to furnish 3000 feet of 2½ inch cotton-jacket rubber hose, at $1 per foot.

=Captain William Prampolini, an Italian civil engineer, who, some two years ago, obtained a patent in the United States for extracting the gum of a Mexican plant known locally as "guayule," was reported recently to be negotiating for the erection of a factory at Binghamton, New York, for carrying out his process.

=The Berlin Rubber Manufacturing Co., Limited, have opened an office and salesroom in St. James street, Montreal.

=Harold O. Smith, after ten years' connection with the Indianapolis Rubber Co. (Indianapolis, Indiana), and the G & J Tire Co., an outgrowth from the latter, has retired from their management, but it is not yet stated what new business he will become identified with.

=Johnson, Moody & Co. (Boston) on December 18 sold at auction 7000 cases of rubber footwear, out of date and slightly imperfect goods mainly from the United States Rubber Co. factories. The attendance was good and the prices obtained satisfactory.

=L. T. Vance, hitherto superintendent of The Durham Rubber Co., Limited (Bowmanville, Ontario), will take charge of the plant of the Eureka Rubber Manufacturing Co., now building at Trenton, New Jersey.

=The Fisk Rubber Co. (Chicopee Falls, Massachusetts) are now marketing the double tube detachable tire which has been mentioned already in connection with their name in THE INDIA RUBBER WORLD. This tire is made under patents owned by the Fisk Rubber Co., and not under a license from any other company.

=Peter Sherbondy, a timekeeper at the office of The B. F. Goodrich Co. (Akron, Ohio), after having been for 32 years in their employ, has been retired on full pay. The notification of this came to him as a Christmas present.

=J. M. Gallaway, general traffic manager for the United States Rubber Co., has been in Boston lately arranging to combine with his department the same work for the Boston Rubber Shoe Co. J. Alvin Scott, who has been traffic and insurance agent of the Boston Rubber Shoe Co., after transferring his freight business to Mr. Gallaway, will ha e charge of the entire insurance business of the United States Rubber Co. and the Boston Rubber Shoe Co.

=The Chicago branch of Edward R. Rice, selling agent for the Joseph Banigan Rubber Co., will be known from this date as the Banner Rubber Co., Edward R. Rice, proprietor, and J. D. McDonald, Manager.

=Fire from an unknown cause at midnight of December 20 destroyed a four story warehouse, Nos. 109-111 First avenue, south, Minneapolis, Minnesota, occupied by W. S. Nott Co., manufacturers of leather belting and large jobbers of rubber goods, with all the contents. The loss on goods, estimated at $35,000, is covered by insurance. This was not the principal building occupied by the Messrs. Nott.

=The feeling exists in some quarters in Canada that an overproduction of rubbers exists in that country. The requirements of the country are not over $3,000,000 a year, says the *Canadian Shoe and Leather Journal*, while the producing capacity is about $5,000,000. There is a probability, however, that the production will be somewhat reduced this winter, owing to the fact that one of the factories is closing down. The reference probably is to the Boston Rubber Co. of Montreal, Limited.

=The city of Barberton, Ohio—named for President Barber, of The Diamond Match Co.—standing on what was farm land ten years ago, boasts a population to day of 10,000 and predicts double this number ten years hence. Four years ago the rubber industry had not been introduced there. There are now four rubber factories in the place and a fifth is building, which would indicate that in one respect, at least, Barberton is attempting to rival her near neighbor, Akron.

=The auction sale of rubber footwear held by Benning & Barsalou in Montreal, on November 13 to 16, was well attended by buyers from all over Canada. Over 10,000 cases were disposed of, prices averaging 10 to 20 per cent. higher than last year. It was one of the largest auction sales in the history of the trade, aggregating over $100,000 worth.

=Charles Schermerhorn, who has been made foreman of the shoe department of the Lambertville (New Jersey) Rubber Co., has been employed there for twenty-four years, with the exception of a few months in 1883, which he spent at the Candee rubber factory, in New Haven.

=A number of friends of Mr. Charles P. Goldenbaum, one of the foremen of the Vulcanized Rubber Co. (Morrisville), gathered at his home at Trenton on the evening of December 13—his thirty-fourth birthday—and presented him with a smoking set, after which the evening was spent in dancing.

Mr. Goldenbaum is a member of the Trenton city council and also a justice of the peace.

=The Trenton Young Men's Christian Association on the evening of December 13 tendered a reception to the local rubber workers. There was an address on the work of the association, after which refreshments were served and the remainder of the evening was devoted to games and athletic sports. The rubber mills' committee of the association, mentioned lately in THE INDIA RUBBER WORLD, took part in the reception.

=The firm of J. H. Stedman & Co., Inc. (Boston), dealers in scrap rubber, have removed from No. 200 Summer street to larger quarters in the Hathaway building, No. 620 Atlantic avenue, which adjoins their former location.

=The White Anchor Relief Association, a beneficiary organization composed of employés of The B. F. Goodrich Co. (Akron, Ohio), celebrated the completion of the large five story addition to the company's factory on the evening of December 5, with a dance and reception in the new structure, where there was a large attendance and many visitors were shown through the building.

BARBERTON RUBBER CO. (BARBERTON, OHIO).

CHARLES AMMERMAN, of Barberton, was mentioned in the last INDIA RUBBER WORLD as having purchased land in that town for a rubber factory site. A company is to be formed under the name of a Barberton Rubber Co., for the manufacture of seamless dipped rubber goods, and it is expected that they will become incorporated in January, with $50,000 capital. The company have formed an organization, and have erected a one story tiled building for experimental work, and plans have been prepared for a two story factory about 50 × 100 feet. The names of the interested parties, with the exception of Mr. Ammerman, are still withheld.

NEW INCORPORATIONS.

THE Empire State Horseshoe Co. (New York), December 18, under New York laws, to make rubber cushions and elastic tread horseshoes; capital, $350,000. Directors: Elliott C. Cowdin, Mount Kisco, New York; Robert A. Inch, Theodore L. Bailey, I. Corwin Bryant, W. J. Harvey, W. G. Tiffany, Francis M. Ware, New York city.

=The International Rubber Co., December 23, under New Jersey laws, to import India rubber and manufacture the same into boots, shoes, blankets, and other articles; capital, $10,000. Incorporators: L. W. Snyder, Samuel M. Roberts and Herbert C. Westbrook, all giving as their address, Camden, New Jersey. Camden is near Philadelphia, from which city recently emanated a newspaper report that an International Rubber Co. was about to be incorporated in New Jersey with $10,000,000 capital, to take a commanding position in the rubber industry.

OBITUARY.

JULES HENRI SPADONE died on December 7 at San Francisco, California, where, for twenty years, he had been connected with the Pacific coast branch of the Gutta Percha and Rubber Manufacturing Co. Mr. Spadone was born in New York city 40 years ago, his father, whose full name he took, being a brother of Mr. Amadée Spadone, now president of the Gutta Percha and Rubber company. The father of the deceased was a soldier in the armies of the Union, in which he won a record for bravery under General Grant. The son's taste at first decided him upon a sea life, and it was while on a United States school ship that he first saw San Francisco. Once there he reconsidered his earlier determination, and connected himself with the rubber business in which his uncle was interested, winning for himself a desirable position and a wide circle of devoted friends.

At a meeting of the San Francisco Rubber Trade, held in the rooms of Manufacturers' and Producers' Association, December 9, 1902, the following resolution was unanimously adopted:

Resolved, That we sincerely regret the untimely death of our friend Jules H. Spadone, who has been identified with and favorably known to the Pacific coast rubber trade for twenty years. During that time he has held responsible positions with honor, and been the direct representative of one of the largest rubber manufacturing companies in the United States. His character and habits were above reproach, and his death is a great loss.

Resolved, That a copy of this resolution be furnished the press of San Francisco, and Portland, Oregon, also THE INDIA RUBBER WORLD, New York.

BOWERS RUBBER COMPANY.
W. F. BOWERS, President.

GOODYEAR RUBBER COMPANY.
R. H. PEASE, President.

REVERE RUBBER COMPANY.
A. T. DUNBAR, Manager.

NEW YORK BELTING & PACKING CO., LTD.
C. H. CHASE, Manager.

BOSTON WOVEN HOSE & RUBBER CO.
J. V. SHEBY, Manager.

THE GUTTA PERCHA & RUBBER MFG. CO.
BATES & HOUGH, Managers.

PACIFIC COAST RUBBER CO.
H. C. NORTON,
Manager and Vice-President.

=Patrick Cavanaugh, senior member of Cavanaugh Brothers & Knapp (New York), and local manager of the Standard Rubber and Oil Clothing Co. (Brockton, Massachusetts), died on December 18 at the latter place, at the age of 45 years. The funeral occurred in New York on December 22.

=Mr. Jacob Perkins, an influential citizen of Warren, Ohio, a trustee of the Ohio state hospital at Cleveland, and a cousin of Colonel George T. Perkins, president of The B. F. Goodrich Co., of Akron, died on November 30, of pneumonia.

PERSONAL MENTION.

AT the first monthly smoker of the Massachusetts Automobile Club, of Boston, on the evening of November 28, the principal feature was a talk on "India rubber from the Forest to the Factory," by Mr. Henry C. Pearson, Editor of THE INDIA RUBBER WORLD.

=Messrs. Porfirio Nogueri and Enéas Martins, of Manáos, special representatives of the state government of Amazonas, Brazil, are now in New York in connection with raising a loan of £1,500,000, in 5 per cent. gold bonds, redeemable at the rate one-thirtieth part per annum, for the purpose of refunding the state debt and providing funds for public purposes. The revenues of the state—mainly export duties on rubber—are especially charged with the payment of principal and interest.

AKRON (OHIO) PERSONALS.

COLONEL GEORGE T. PERKINS, president of The B. F. Goodrich Co., is planning to go to California with his family, starting in February, for two months' absence.

=One of the most enthusiastic of automobilists is Mr. A. H. Marks, of the Diamond Rubber Co. Akron is too hilly to be well suited for cycling, but its many long stretches of superb block asphalt pavement render it attractive to the automobilist. Mr. Marks uses a powerful Winton machine, while Mr. F. H. Mason, of the Goodrich company, goes to and from the factory in a Baker runabout.

=Mr. Henry Alden has decided to leave his class at Yale and become connected with the Alden Rubber Co., of which his father is president.

=Mr. Charles C. Goodrich, of The B. F. Goodrich Co., attended the annual festivities of the Associated Harvard Clubs, at Cincinnati, on December 13. Mr. Goodrich and Mr. R. L. Chipman, of Akron, are members of the Harvard Club of Cleveland.

THE NEW PACIFIC CABLES.

DURING the last days of the year the laying of the cable of the Commercial Pacific Cable Co. between San Francisco and Honolulu was successfully completed by the *Silvertown*, the cable laying ship of the India Rubber, Gutta Percha, and Telegraphs Works Co., Limited, (London). The remainder of this cable, to reach the Philippines, is now being manufactured by the Telegraph Construction and Maintenance Co. (London), and the last section, to connect Manila with Shanghai, doubtless will be contracted for soon.

On December 8 the Pacific cable laid by the British government and its colonies across the Pacific, from Vancouver to Victoria, was formally opened for business, the laying of the cable having been completed on October 31 by the closing of the last link at Suva, Fiji islands.

AN AMERICAN MADE CABLE FOR MEXICO.

THE contract taken by The Safety Insulated Wire and Cable Co. (New York) to make and lay 472 nautical miles of submarine cable for the Mexican government telegraph department, to connect the ports of Vera Cruz, Frontera, and Campeche, in the gulf of Mexico [mentioned in THE INDIA RUBBER WORLD, January 1, 1902—page 116], has been successfully completed and the cable is now working. The cable was manufactured at the Safety company's new works at Bayonne, New Jersey. It consists of a stranded conductor of nine copper wires, with rubber insulation, armored with sixteen wires for deep water and eighteen wires for shore ends. The deep sea cable has a diameter of about 1¾ inches and weighs 2½ long tons per nautical mile. For a cable ship the Safety company chartered the steamer *Ydun*, which was handed over to the company at Brooklyn, New York, on August 19 last. The *Ydun*, with the cable coiled on board, reached Vera Cruz on September 13. On October 10 the laying of the cable was completed, including the erection of the cable houses at the three ports named, and the cable has since been taken over by the Mexican government and has been working successfully. The engineering specifications for the manufacture of the cable were drawn by Mr. Ira W. Henry, vice president of the Safety company.

REVIEW OF THE CRUDE RUBBER MARKET.

NOT only does every grade of rubber included in our quotation list show an advance to-day over one month ago, but there has been an even larger advance over the prices of one year ago. Islands fine new is 10 per cent. higher than at the beginning of the year; Upriver fine old 8 per cent. higher; Centrals average 21 per cent. higher, and all grades of Africans show a material increase. These advances are the more notable in view of the heavy decline in prices which followed the throwing upon the market of $2,000,000 or $3,000,000 worth of rubber in consequence of the failure of a large importing house in New York, in January last, with the result of upsetting the market throughout the world. This surplus stock of rubber remained a disturbing feature for several months, due to the action of its holders—bankers who had made advances upon it—seeking to avoid a complete sacrifice of the rubber by permitting all of it to be offered at once. While this policy prevented a worse demoralization of the market, and enabled some sort of standard of prices to be maintained, manufacturers were disinclined so long as any of this surplus was known to exist to buy beyond their current actual necessities. This abnormal condition permitted opportunities for the manipulation of prices, which undoubtedly were availed of to a certain extent, with the effect of still further depressing the market, to a lower point than was warranted by conditions of supply and demand. The result was that a hope was engendered that an era of lower prices had been inaugurated, and in consequence consumers were not prepared for the advance which, beginning late in the year, has now reached a higher level than existed a year ago, when at least 1500 tons of importations at New York had been held out of the market.

The chief question to day relates to the probable further course of the market. The receipts at Pará thus far are about 1500 tons less than at this date last season, in addition to a shortage of 300 tons of caucho. The arrivals at Antwerp for the first eleven months of 1902 were 1000 tons less than in the same period of the preceding year. Stocks, in every market show a decline, the total world's visible supply of Pará sorts being 900 tons less than was officially reported one year ago. This shortage, of course, is offset by the subsequent coming into the market of the New York stocks not then reported, but there has been a decline in the supplies of other grades than Parás. For instance, there was held at Antwerp on November 30 only 186 tons of rubber, as against 843 tons one year before. There is always an uncertainty at this time of the year as to what supplies of rubber may be detained up the Amazon valley. THE INDIA RUBBER WORLD'S correspondents have reported all season the sending out of fewer boats in this trade, and it is reasonably certain that the troubles on the Acre—a "revolution" having been inaugurated there on August 6 which has not yet been declared off—have had the effect of suspending production in a district which under normal conditions should supply 2000 or 3000 tons of Pará rubber.

Rubber production, therefore, not only is not showing the rate of increase maintained for several years up to 1901, but this year will show a material decline. Meanwhile the rubber manufacture in every country in which it has been established has been active, there having been in no country such business conditions as have lessened the demand for rubber goods except, perhaps, in Germany, where the manufacturers have been able through their growing export trade to offset any check in the trade at home.

There is nothing in the conditions outlined above to point to the limit of rubber production having been reached. On the other hand, facilities for reaching the remoter South American fields are being improved all the while, even if slowly, and the tendency is toward the better conservation of native supplies there. The decreased output from the Congo districts has been due in part to a deliberate policy of the rubber trading companies which, for some time, have seen their earnings suffer through the careless handling of their rubber products, of devoting their energies to the better preparation and more careful shipment of rubber, rather than to getting out the greatest possible quantity.

It appears now as if manufacturers would have to adapt themselves to a condition of rubber practically as high priced as at any time of considerable duration in the past, in connection with which no promise exists of an early decline in the cost of the other raw materials which enter into their products.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 58 William street, New York) advises us;

"During December there has been very little call for paper, on account of the stringent money market and high rates, and what small demand there has been from out-of-town banks has ruled at 6 @ 6½ per cent. for the best rubber paper, and 7 @ 7½ for names not so well known."

New York quotations on December 30 were:

PARÁ.		AFRICAN.	
Islands, fine, new	88 @89	Tongues	54 @55
Islands, fine, old	91 @92	Sierra Leone, 1st quality	78 @79
Upriver, fine, new	90 @91	Benguella	63 @64
Upriver, fine, old	95 @96	Cameroon ball	57 @58
Islands, coarse, new	60 @61	Flake and lumps	39 @40
Islands, coarse, old	@	Accra flake	21 @22
Upriver, coarse, new	73 @74	Accra buttons	56 @57
Upriver, coarse, old	@	Accra strips	58 @59
Caucho (Peruvian) sheet	59 @60	Lopori ball, prime	77 @78
Caucho (Peruvian) ball	69 @70	Lopori strip, do	73 @74
CENTRALS.		Madagascar, pinky	78 @79
Esmeralda, sausage	68 @69	Madagascar, black	@
Guayaquil, strip	60 @61	EAST INDIAN.	
Nicaragua, scrap	68 @69	Assam	65 @67
Mangabeira, sheet	49 @50	Borneo	38 @52

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Islands, fine	5$650	Upriver, fine	6$500
Islands, coarse	3$350	Upriver, coarse	5$000

Exchange, 11 7/8 *d.*

Last Manáos advices:

Upriver, fine	6$175	Upriver, coarse	4$475

Exchange, 12 1/32 *d.*

NEW YORK RUBBER PRICES FOR NOVEMBER (NEW RUBBER).

	1902.	1901.	1900.
Upriver, fine	78½@82	93 @97	84 @87
Upriver, coarse	63 @68	68 @70	63½@66
Islands, fine	73 @76	89 @94	76½@80
Islands, coarse	48 @51½	52 @57	46½@50
Cametá, coarse	48½@52½	55 @56	48 @51

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total 1902.	Total 1901.	Total 1900.
Stocks, October 31 ...*tons*	147	23 =	170	345	579
Arrivals, November	1096	367 =	1463	1405	874
Aggregating	1243	390 =	1633	1750	1453
Deliveries, November	1083	379 =	1462	1215	874
Stocks, November 30	160	11 =	171	535	579

	PARÁ.			ENGLAND.		
	1902.	1901.	1900.	1902.	1901.	1900.
Stocks, Oct. 31 ...*tons*	145	375	415	1250	880	930
Arrivals, November	2650	2645	2172	1000	1055	745
Aggregating	2795	3020	2587	2250	1935	1675
Deliveries, November	2640	2610	1977	1050	1050	725
Stocks, Nov. 30	155	410	610	1200	885	950

	1902.	1901.	1900.
World's supply, November 30...*tons*	3082	3080	3397
Pará receipts, July 1 to November 30	8734	9327	7595
Pará receipts of Caucho, same dates	556	763	385
Afloat from Pará to United States, Nov. 30	710	325	588
Afloat from Pará to Europe, November 30	846	925	670

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers:

Old Rubber Boots and Shoes—Domestic	7⅝ @ 7¾
Do —Foreign	6⅝ @ 6¾
Pneumatic Bicycle Tires	5¾
Solid Rubber Wagon and Carriage Tires	6½
White Trimmed Rubber	9⅝ @ 9¾
Heavy Black Rubber	4¼
Air Brake Hose	2¼ @ 2⅜
Fire and Large Hose	2½
Garden Hose	1¾
Matting	1

Balata.

AT the London auction on December 12, 314 packages were offered and about 190 sold. Fair Demerara sheet at 2*s.* 5*d.*; mixed ditto at 2*s.* 2*d.*; thick heart soft at 2*s.*; reboiled at 1*s.* 10*d.*; low at 1*s.* Venezuelan block at 2*s.* 0½*d.*; rejections at 1*s.* 2*d.* @ 1*s.* 4*d.*

Gutta-Percha.

WEISE & CO., of Rotterdam, report the following exports of Gutta percha from Singapore for the first ten months of four years past:

	1899.	1900.	1901.	1902.
Tons	5988	5314	4810	3576

Bordeaux:

ARRIVALS NOVEMBER 1 TO DECEMBER 13.

Soudan sorts	*kilos* 55,900	
Cassamance	23,600	
Bassam	5,000	84,500

RECENT PRICES PER KILOGRAM.

Soudan:		Madagascar:	
Twists, good	7. @7.50	Pinky	6.50@6.75
Twists, ordinary	6 50@6.75	Niggers	3.50@5.
Niggers, good	7. @7.30	Tamatane, black	5.50@5.95
Niggers, ordinary	6.40@6.60	Majunga	4.50@5.95
Niggers, earthy	5 50@6.	Sierra Leone:	
Bassam lumps	3.90@4 70	Niggers, red	7.40@7.80
Bassam cakes	3.90@6.10	Niggers, white	7.15@7.35
Cassamance AP.A.	6.10@6.80	New Caledonia	7.50@7.75
Cassamance AM.B.	4. @5.20	Java	6.75@6.75

Rubber Receipts at Manaos.

DURING November and for the first five months of the crop season, and compared with former years (by courtesy of Messrs. Witt & Co., Manaos):

	JULY.			NOVEMBER.		
FROM—	1902.	1901.	1900.	1902.	1901.	1900.
Rio Purús ...*tons*	249	497	318	1448	1871	1455
Rio Madeira	240	267	333	1134	1331	1203
Rio Juruá	183	604	38	452	1185	384
Rio Javary—Iquitos	246	120	192	554	595	385
Rio Solimões	153	268	187	598	772	439
Rio Negro	21	12	17	90	29	23
Total	1092	1768	1085	4276	5783	3889
Caucho	94	302	77	415	816	401
Total	1186	2070	1162	4691	6599	4291

London.

EDWARD TILL & CO., December 1, report stocks:

		1902.	1901.	1900.
LONDON	Pará sorts ...*tons*	—	—	—
	Borneo	93	142	217
	Assam and Rangoon	2	70	31
	Other sorts	230	457	782
	Total	325	669	1030
LIVERPOOL	Pará	1178	890	941
	Other sorts	580	966	1090
Total, United Kingdon		2083	2525	3061
Total, November		2337	2602	3040
Total, October		2464	2802	2846

PRICES PAID DURING NOVEMBER.

	1902.	1901.	1900
Pará fine, hard	3/4½ @3/6	3/5¾ @3/7½	3/10½@4/1
Do soft	3/0¾ @3/1½	3/3¾ @3/5½	3/9½ @3/11
Negroheads, Islands	2/1½ @2/2	1/11 @2/1	2/1¾
Do scrappy	2/8½ @2/10	2/8	2/9½ @2/10½
Bolivian	3/4¾ @3/6	3/6½ @3/7¼	4/0¼ @4/2

DECEMBER 12.—The market for Pará has been very firm during the past month, prices showing at the close an advance of 1*d.* over last report, with indications of an upward tendency. A good business has been done, including fine hard at 3*s.* 5*d.* @ 3*s.* 5½*d.* spot, with old import at 3*s.* 6¼*d.* @ 3*s* 6½*d*; January–February delivery 3*s.* 5¾*d.* and March–April 3*s.* 6*d.* Soft cure spot sold at 3*s.* 2*d.* @ 3*s.* 3*d.* and forward at 3*s.* 2½*d* @ 3*s.* 3¼*d.* Some very old Bolivian sold at 3*s.* 7*d.* and entrefine at 3*s.* 5*d.*,

fine Mollendo 3*s.* 3*d.*, and Mattogrosso fair virgin sheet at 3*s.* Negroheads are dearer, with sales of scrappy at 2*s.* 9¾*d.* and Islands and Cametás at 2*s.* 2*d.* Peruvians continue scarce, fine selling at 3*s.* 5¼*d.*; ball (Caucho) at 2*s.* 9*d.* @ 2*s.* 9½*d.* and slab (Caucho) at 2*s.* 3½*d.* @ 2*s.* 4½*d.* At auction to-day medium grades were in good request and sold with competition at higher rates. Colombian good brown and white scrap at 2*s.* 8*d.*; fair Ecuador scrap and roll at 2*s.* 6½*d.*; Mozambique fair clean stickless sausage 2*s.* 9¾*d.* @ 2*s.* 10¼*d.*; fair Lamu ball 2*s.* 6¾*d.* @ 2*s.* 7*d.*; Uganda fair clean ball 2*s.* 6¼*d.* @ 2*s.* 6½*d.*; Nyassa good reddish and livery ball at 2*s.* 11¼*d.* @ at 2*s.* 11½*d.*; ditto strong white ball at 2*s.* 9¾*d.* @ 2*s.* 10*d.* Twenty one cases of Ceylon rubber from Pará seed were offered and 17 sold; good thin biscuits at 3*s.* 11½*d.* and scrap at 2*s.* 7*d.* @ 2*s.* 7½*d.*

Liverpool.

WILLIAM WRIGHT & CO. report [December 1]:

Fine Pará.—Up to the middle of the month the market continued strong and active, and prices of new Upriver fine advanced to 3*s.* 5¼*d.*, old to 3*s.* 6*d.*, and Islands to 3*s.* 3¼*d.*; then, owing to American manipulation, prices of Upriver were forced down to 3*s.* 4*d.*, and Islands to 3*s.* 1*d.* Receipts, especially of Upriver continued small. At the close prices have recovered to 3*s.* 4½*d.* and 3*s.* 1¾*d.* for Upriver and Islands respectively. America has again bought considerable quantities of old fine on this market, and, with the comparatively small stocks in New York and small receipts in Manáos, will probably be a still further buyer in the near future. We can only repeat what we said last month, that about 3*s.* 4*d.* is not a high price. Reports up to the present predict a shortage in the crop, owing to the Acre revolution and financial difficulties. Should this prove correct, taking the shortage of good medium grades into account, manufacturers would, we think, do well not to entirely neglect present prices.

MARIUS & LEVY, crude rubber merchants, close their Liverpool house on this date, and will conduct their business hereafter through their Paris house, 6, rue Martell, and their various branches on the Amazon.

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The rubber market has been very firm for a month past. At the inscription sale of November 28, when 300 tons were exposed and sold, the advance on valuations averaged 5½ per cent. Among the principal lots were:

		Valuation.	Sold at.
29 tons	Upper Congo Aruwimi	*francs* 6.	6.80
39 "	Lopori I	6 75	7.02½–7.10
21 "	Uelé	6.32½	6.62½
59 "	Mongalla	6 50	6 95
20 "	Batouri	6.50	6.72½
18 "	Kassai Loanda	6.65	6.75–6.80

At the sale on December 16, when 178 tons were offered and sold, there was good competition at very full prices. The United States, as well as England and the Continent, had sent orders at high figures, and the advance on the November sale amounted to 5 or 6 per cent., or 10 or 12 per cent. on brokers' estimation, as the latter had been made up before the November sale. The best prices were paid for Upper Congo sorts, namely:

		Valuation.	Sold at.
20 tons	Aruwimi	*francs* 7.17½	6.15
30 "	Upper Congo balls	7.77½	7.10
12 "	Upper Congo small strips	7.40	6.35
20 "	Uelé	7 40	6.50
14 "	Mongalla	7.57½	6 40

Importers have decided to hold small weekly sales by inscription every Friday, besides the regular monthly sales, which will be held as heretofore. Next Friday's sale (December 19) will include a fine lot of 62 tons Lopori I, estimated at 7.70 francs per kilogram.

C. SCHMID & CO.

Antwerp, December 16, 1902.

ANTWERP RUBBER STATISTICS FOR NOVEMBER.

DETAILS.	1902.	1901.	1900.	1899.	1898.
Stocks, Oct. 31..*kilos*	350,138	266,105	909,047	148,738	234,651
Arrivals in November	235,231	683,521	473,404	150,196	211,776
Congo sorts	201,172	660,897	452,215	120,127	192,877
Other sorts	34,059	22,624	21,189	30,069	18,899
Aggregating	585,369	949,626	1,382,451	298,934	446,427
Sales in November	399,408	106,325	317,805	119,156	176,112
Stocks, Nov 30	185,961	843,301	1,064,646	179,778	270,315
Arrivals since Jan. 1	4,604,749	5,644,282	5,527,900	3,083,529	1,793,722
Congo sorts	4,232,804	5,234,931	4,750,277	2,611,717	1,540,634
Other sorts	371,945	409,351	777,623	471,812	253,088
Sales since Jan. 1	4,833,497	5,414,930	4,755,245	3,167,091	1,617,870

RUBBER ARRIVALS AT ANTWERP.

NOV. 26.—By the *Philippeville*, from the Congo:

Bunge & Co	(Société Générale Africaine) *kilos*	188,000	
Do	(Comité Spécial Katanga)	2,800	
Do	(Société Anversoise)	61,000	
Do	(Société Isangi)	12,084	
Do	(Cie. du Kassai)	71,000	
Société A B I R		73,000	
Comptoir Commercial Congolais		22,100	
Société Equatoriale Congolaise	(Société L'Ikelemba)	9,400	
W. Mallinckrodt & Co	(Alimaienne)	5,500	
Charles Dethier	(La Haute Sangha)	4,000	
Do	(Cie. de la M'Poko)	2,000	
Société Coloniale Anversoise	(Est du Kwango)	9,146	
Do	(Cie. de Lomami)	16,000	
Société Coloniale du Baniembe		1,100	
M. S. Cols	(Socié é L'Ikelemba)	600	
Do	(Cie. Bruxelloise du Haut Congo)	6,000	
Société Coloniale Anversoise	(Société La Lulonga)	10,000	
Do		1 243	
Do		2 000	
Do	(Belge du Haut Congo)	38 000	
Do	(Süd Kamerun)	2,500	
Cie. Commerciale des Colonies (Cie. Francaise du Congo)		350	537,823

IMPORTS FROM PARA AT NEW YORK.

[*The Figures Indicate Weights in Pounds.*]

December 1.—By the steamer *Benedict*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total
Reimers & Co	105 900	71,400	41,800	=	219,100
New York Commercial Co.	103,000	14,900	22,900	=	140,800
A. T. Morse & Co.	49 400	12,700	60,830	2,000=	124,900
United States Rubber Co.	22,500	2,600	73,900	=	99,000
William Wright & Co.	15,400	3,200	35,100	=	53,700
Edmund Reeks & Co.	21,100	2,700	6,000	=	29,800
Boston Rubber Shoe Co.			11,400	=	11,400
H. A. Gould & Co.	4,700	300	1,900	=	6,900
Kramrisch & Co.			5,100	=	5,100
Total	322,000	107,800	258,900	2,000=	690,700

December 12.—By the steamer *Maranhense*, from Manáos and Pará:

New York Commercial Co.	194,200	24,700	67,300	=	286,200
A. T. Morse & Co.	64,500	7,500	119,300	=	191,300
Edmund Reeks & Co.	77,200	13,800	10,100	=	101,100
Reimers & Co	54,600	9,300	23,000	=	86,900
United States Rubber Co.	23,900	1,900	39,200	2,100=	67,100
Boston Rubber Shoe Co.			11,400	=	11,400
William Wright & Co.	20,800	2,100	2,400	=	25,300
H. A. Gould & Co.	5,400	300	600	=	6,300
Kramrisch & Co.			3,700	=	3,700
Total.	440,600	59,600	277,000	2,100=	779,300

December 19.—By the steamer *Hilary*, from Manáos and Pará:

A. T. Morse & Co.	95,100	22,500	81,400	=	199,000
New York Commercial Co.	92,000	21,000	16,300	=	129,300
Reimers & Co.	70,000	6,800	25,300	=	102,100
William Wright & Co.	8,700	700	49,800	3,600=	62,800
United States Rubber Co.			45,500	2,400=	47,900
Boston Rubber Shoe Co.			11,400	=	11,400

Hagemeyer & Brunn	6,700	2,000	4,000	....=	12,700
Lawrence Johnson & Co.	7,400	2,000	700	..=..=	10,100
L. Hagenaers & Co	5,200	.....	2,100	...=	7,300
Edmund Reeks & Co.	....	.....	2,200	.....=	2,200
Total	285,100	55,000	238,700	6 000=	584,800

December 24.—By the steamer *Cearense* from Manáos and Pará:

Reimers & Co.	94,200	28,600	79,100	.....=	201,900
New York Commercial Co.	50.000	18,300	32,300	.....=	100,600
A. T. Morse & Co.	45.100	8,000	29,000	.....=	82,100
Edmund Reeks & Co.	24.500	5,900	7,500	800=	38,700
United States Rubber Co.	.....	....	29,700	6,700=	36,400
Boston Rubber Shoe Co.	.....	.....	11,400	.... =	11,400
William Wright & Co.	.....	.....	23.400	... .=	23,400
Hagemeyer & Brunn	8.400	2,700	1,800	.....=	12,900
Total	222,200	63,500	214,200	7,500=	507,400

[NOTE.—The steamer *Basil* from Pará is due at New York on January 2 with 320 tons of rubber.]

PARA RUBBER VIA EUROPE.

	POUNDS.	
NOV. 24.—By the *Etruria*=Liverpool:		
Reimers & Co. (Fine)	74,200	
Reimers & Co. (Coarse)	22,600	
George A. Alden & Co. (Fine)	66,500	
A. T. Morse & Co. (Fine)	5,400	168,200
NOV. 25.—By the *Alliance*=Mollendo:		
J. M. Parr's Sons (Fine)	18,700	
J. M. Parr's Sons (Coarse)	2,000	20,700
NOV. 28.—By the *Celtic*=Liverpool:		
Reimers & Co. (Fine)		101 000
DEC. 1.—By the *Campania*=Liverpool:		
George A. Alden & Co. (Fine)	28,500	
George A. Alden & Co. (Coarse)	4,000	32,500
DEC. 2.—By the *La Champagne*=Havre:		
A. T. Morse & Co. (Fine)		10,000
DEC. 3.—By the *Finance*=Mollendo:		
New York Commercial Co. (Fine)	13 000	
New York Commercial Co. (Coarse)	1,500	14,500
DEC. 5.—By the *Teutonic*=Liverpool:		
Reimers & Co. (Fine)	28,000	
Reimers & Co (Coarse)	8,500	
A. T. Morse & Co. (Fine)	12,800	
William Wright & Co. (Fine)	4,500	
George A. Alden & Co. (Fine)	2,000	55,800
DEC. 9.—By the *Segurança*=Mollendo:		
New York Commercial Co. (Fine)		5,000
DEC. 10.—By the *Lucania*=Liverpool:		
Reimers & Co. (Fine)		45.000
DEC 13.—By the *Minnetonka*=London:		
Reimers & Co. (Fine)		25,000
DEC. 16.—By the *City of Washington*=Mollendo:		
J. M. Parr's Sons (Fine)		4 800
DEC. 22.—By the *Cymric*=Liverpool:		
William Wright & Co. (Fine)	15 000	
Reimers & Co (Fine)	11.000	
George A. Alden & Co (Fine)	3 500	29,500
DEC. 22.—By the *Etruria*=Liverpool:		
George A. Alden & Co. (Fine)	52,000	
Reimers & Co. (Fine)	6,000	58,000

OTHER ARRIVALS AT NEW YORK

CENTRALS.

	POUNDS.	
NOV. 24.—By the *Etruria*=Liverpool:		
Reimers & Co.		6,700
NOV. 25.—By the *Alliance*=Colon:		
Lawrence Johnson & Co.	18,500	
Mecke & Co.	10 500	
Kunhardt & Co.	8 800	
Hirzel, Feltman & Co	8,500	
American Trading Co	6,300	
A. Santos & Co.	5,800	
Roldan & Van Sickle	3.000	
G. Amsinck & Co.	2,400	
Dumarest & Co.	2,400	
M. A. de Leon	1,800	
Eggers & Heinlein	1,500	
Ascensio & Cossio	1,600	
E. B. Strout	1,300	
Isaac Brandon & Bros.	1,200	
L. N. Chemedlin & Co.	1,000	
Silva, Bussenius & Co.	600	
W. R. Grace & Co.	600	76,800
NOV. 28.—By the *Terence*=Bahia:		
J. H. Rossbach & Bros.		14,500
DEC. 3.—By the *Finance*=Colon:		
Hirzel, Feltman & Co.	7,000	
Lawrence Johnson & Co.	700	7,700
DEC. 2.—By the *Valencia*=Greytown:		
E. B. Strout	6,500	
A. D. Straus & Co.	3,000	
G. Amsinck & Co.	800	
Jimenez & Escobar	600	
Lawrence Johnson & Co.	500	
Heirapolis & Co	500	
Kunhardt & Co.	200	12,100

CENTRALS—Continued.

DEC. 8.—By the *Monterey*=Mexico.		
Fred. Probst & Co.	3,500	
H. Marquardt & Co	1 500	
Harburger & Stack	1,500	
E. Steiger & Co.	1,600	
Thebaud Brothers	700	
Parraga Bros.	1,200	10,000
DEC. 9.—By the *Segurança*=Colon:		
Hirzel, Feltman & Co.	17,000	
G. Amsinck & Co.	5,400	
Lawrence Johnson & Co	4,800	
A. Santos & Co	3,600	
Isaac Brandon & Bros	2,500	
Andreas & Co.	1,900	
Dumarest & Co	1,200	
Roldan & Van Sickle	900	
Lazord Freres	800	
L. N. Chemedlin & Co	600	
Harburger & Stack	600	39,300
DEC. 9.—By the *Louisiane*=New Orleans:		
Manhattan Rubber Mfg. Co	4,200	
A. T. Morse & Co.	2,500	6,700
DEC. 10.—By the *Allai*=Carthagena, etc.:		
Guiterman, Rosenfeld & Co	1,500	
Lawrence Johnson & Co.	700	
Kunhardt & Co.	200	2,400
DEC. 12.—By the *Grecian Prince*=Pernambuco:		
Eggers & Heinlein		7,000
DEC. 12.—By the *El Paso*=New Orleans:		
A. T. Morse & Co.		3,000
DEC. 13.—By the *Patricia*=Hamburg:		
George A. Alden & Co.	3,000	
Reimers & Co.	1,000	4,000
DEC. 16.—By the *City of Washington*=Colon:		
Hirzel, Feltman & Co.	7,000	
American Trading Co.	1,100	
L. N. Chemedlin & Co.	1,000	9,100
DEC. 16.—By the *Sailor Prince*=Bahia:		
J. H. Rossbach & Bros.		2 300
DEC. 17.—By the *Allegheny*=Greytown:		
A. D. Straus & Co.	2,500	
G. Amsinck & Co	3,000	
E. B. Strout	2,000	
Andreas & Co.	700	
Lawrence Johnson & Co.	1,200	
United Fruit Co.	1,200	
Isaac Brandon & Bros.	1,500	
A. S. Lascellas & Co.	1,200	13,300
DEC. 20.—By the *Esperanza*=Mexico:		
Graham, Hinkley & Co	1,000	
Fred. Probst & Co.	1,000	
E. Steiger & Co.	500	
For Hamburg	2,000	4.500
DEC. 22.—By the *Byron*=Bahia:		
J. H. Rossbach & Bros		5,000
DEC 22.—By the *Comus*=New Orleans:		
A. T. Morse & Co.	1,200	
Lawrence Johnson & Co	1,000	2,200

AFRICANS.

	POUNDS.	
NOV. 24.—By the *Etruria*=Liverpool:		
H. A. Gould & Co	18 000	
George A. Alden & Co.	8,500	
A. T. Morse & Co.	4,500	31,000
NOV. 24.—By the *Potsdam*=Rotterdam:		
A. T. Morse & Co.		11.500
NOV. 28.—By the *Pennsylvania*=Hamburg:		
Reimers & Co.	33,000	
George A. Alden & Co.	47,000	
Otto Meyer.	15,000	
Henry A. Gould & Co.	15.000	
A. T. Morse & Co.	11.000	
Earle Brothers.	2,000	123,000
NOV. 28.—By the *Celtic*=Liverpool:		
Reimers & Co.	5,000	
George A. Alden & Co	3 000	
William Wright & Co.	1,500	9,500

AFRICANS—Continued.

DEC. 1.—By the *Campania*=Liverpool:		
George A. Alden & Co.	23,000	
Otto Meyer	14,000	
Joseph Cantor	8,000	
A. T. Morse & Co.	5,000	50,000
DEC. 4.—By the *Zeeland*=Antwerp:		
Reimers & Co.		31,100
DEC. 5.—By the *Teutonic*=Liverpool:		
Reimers & Co	18,500	
United States Rubber Co.	14,000	
George A. Alden & Co.	14,000	46,500
DEC. 8.—By the *Umbria*=Liverpool:		
Joseph Cantor	11,500	
Robinson & Tallman	5,000	16,500
DEC. 8.—By the *Deutschland*=Hamburg:		
A. T. Morse & Co.		23,000
DEC. 10.—By the *Finland*=Antwerp:		
A. T. Morse & Co.		25,000
DEC. 11.—By the *Boric*=Liverpool:		
George A. Alden & Co		25,000
DEC. 11.—By the *Oceanic*=Liverpool:		
United States Rubber Co.	14,000	
DEC. 15.—By the *Patricia*=Hamburg:		
A. T Morse & Co.	25,000	
Otto Meyer	30,000	
Reimers & Co.	18 000	73,000
DEC. 15.—By the *Lucania*=Liverpool:		
Reimers & Co	20,000	
United States Rubber Co.	7,500	
Otto Meyer	9.000	
Joseph Cantor	4,500	
George A. Alden & Co.	5,000	46,000
DEC. 17.—By the *Vaderland*=Antwerp:		
Joseph Cantor	23,000	
Reimers & Co.	26,000	
William Wright & Co	15,000	
George A. Alden & Co. (Boston)	70,000	134,000
DEC. 17.—By the *Blucher*=Hamburg:		
A. T. Morse & Co.	7,500	
Otto Meyer	6,500	
George A. Alden & Co.	5,000	19,000
DEC. 22.—By the *Cymric*=Liverpool:		
George A. Alden & Co	12,000	
Reimers & Co.	8,000	20,000
DEC. 22.—By the *Etruria*=Liverpool:		
A. T. Morse & Co.	30,000	
Reimers & Co.	15,000	
H. A. Gould & Co.	13 000	
George A. Alden & Co.	11,000	
Otto Meyer	5,000	74,000
DEC. 22.—By the *St. Louis*=London:		
Reimers & Co.		6,500

EAST INDIAN.

	POUNDS.	
NOV. 15.—By the *Satsuma*=Singapore:		
Otto Meyer	11,500	
P. T. Betts	12,500	24,000
NOV. 24.—By the *Minnehaha*=London:		
A. T. Morse & Co.	5,500	
P. T. Betts	1,500	7,000
DEC. 5.—By the *Afton*=Singapore:		
Windmuller & Reiker.		9,000
DEC. 8.—By the *Philadelphia*=London:		
Reimers & Co.	3,000	
Earle Brothers.	2,000	5,000
DEC 18.—By the *Richmond Castle*=Singapore:		
William Wright & Co.		5,500

PONTIANAK.

NOV. 20.—By the *Heathburn*=Singapore:		
Reimers & Co.	175,000	
Robert Branss & Co.	240,000	
P. T. Betts	25,000	480,000
DEC. 10.—By the *Hillglen*=Singapore:		
William Wright & Co.		200,000

EAST INDIANS—Continued.

DEC. 18.—By the *Richmond Castle*=Singapore:

Robert Brauss & Co	175,000	
William Wright & Co	110,000	
J. H. Recknagel & Co	110,000	
Reimers & Co	85,000	
George A. Alden & Co	45,000	320,000

DEC. 20.—By the *Indrani*=Singapore:

Robert Brauss & Co		275,000

GUTTA-PERCHA AND BALATA.

	POUNDS.	
NOV. 20.—By the *Heathburn*=Singapore:		
P. T. Betts	20,000	
George A. Alden & Co	1,500	21,500
NOV. 20.—By the *Philadelphian*=London:		
Kramrisch & Co		9,000
DEC. 18.—By the *Richmond Castle*=Singapore:		
Robert Brauss & Co	11,000	
Reimers & Co	2,000	13,000
DEC. 22.—By the *Indrani*=Singapore:		
Robert Brauss & Co		10,000

BALATA.

NOV. 24.—By the *Potsdam*=Rotterdam:		
George A. Alden & Co		11,500
DEC. 18.—By the *St. Paul*=London:		
H. A. Gould & Co		1,500

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—NOVEMBER.

	POUNDS.	VALUE.
Imports:		
India-rubber	4,517,075	$2,389,561
Gutta-percha	6,681	4 034
Gutta-jelutong (Pontianak)	1,341,660	28 399
Total	5,765,966	$2,421,594
Exports:		
India-rubber	32 518	$20,946
Reclaimed rubber	132,932	16 686
Rubber Scrap Imported	1,816,486	$117,873

BOSTON ARRIVALS.

	POUNDS.
NOV. 3.—By the *Michigan*=Liverpool:	
Reimers & Co.—Caucho	11,059
NOV 5.—By the *Devonian*=Liverpool:	
George A Alden & Co.—African	12,116
NOV. 11.—By the *Patricia*=Hamburg:	
Otto Meyer—African	17,772
[Included in arrivals at New York by the *Patricia*=Hamburg, Oct. 31.]	
NOV. 12.—By the *Winifredian*=Liverpool:	
George A. Alden & Co.—African	1,653
NOV. 13.—By the *Ivernia*=Liverpool:	
Reimers & Co.—African	4,741
NOV. 25.—By the *Vaderland*=Antwerp:	
George A. Alden & Co.—African	114,936
[Included in arrivals at New York by the *Vaderland*, Nov. 18.]	
Total	162,277
[Value, $82,815.]	

NOVEMBER EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Prüsse & Co	63,580	12,750	26,900	—	103,230	91,970	4,250	21,580	5,446	123,246	226,476
Frank da Costa & Co	61,524	5,688	169,893	5,100	242,205	87 030	11,750	57,619	—	156,399	398,604
Adelbert H. Alden	117,320	17,120	72,030	—	206,470	112,570	15 760	38,080	1,331	167,741	374,211
Singlehurst, Brocklehurst & Co.	—	—	1,007	—	1,007	21.133	1,334	4.103	3.173	29.743	30,750
Neale & Staats	17,340	1,020	72,320	—	90,680	24 031	2,380	5,527	7.759	39.697	130,377
Denis Crouan & Co	42,355	4,307	47.490	—	94.152	57,612	5,671	13,391	—	76,674	170,826
B. A. Antunes & Co	—	—	—	—	—	6,400	1,470	887	—	8 757	8,757
Pires, Teixeira & Co	—	—	—	—	—	8,954	—	1,172	—	10,126	10,126
Sundry small shippers	—	—	—	—	—	6,710	—	1,706	—	8,416	8,416
Direct from Iquitos	—	—	—	—	—	105,713	5,323	32,936	84,636	228,608	228,608
Direct from Itacoatiara	—	—	—	—	—	1,902	—	579	91	2,572	2,572
Direct from Manáos	406,814	110,017	84,271	1,980	603,082	290,449	69,865	53,813	6,844	420,971	1,024.075
Total for November	708,933	150,902	473,911	7,080	1.340,826	814,474	117.803	231.393	109.280	1.272,950	2,613.776
Total, July October	1,335.436	319,879	1,178,029	43,756	2,877,100	2,330,497	352,936	628.770	333,429	3,645,632	6.522,732
TOTAL, CROP YEAR	2,044.369	470,781	1,651,940	50 926	4,217,926	3.144.971	470.739	860,163	442.709	4 918.582	9,136,508

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902	3,679,748	279,326	3,400,422
January-September	37,610,569	2,537,333	35,073,236
Ten months, 1902	41,290,317	2,816,659	38,473,658
Ten months, 1901	45,130,539	3,250,775	41,869,763
Ten months, 1900	40,260,700	3,218,067	37,042,633

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902	3,787,280	3,056,144	731,136
January-September	34 992,496	23,040,192	11,952.304
Ten months, 1902	38,779,776	26,096,336	12.683 440
Ten months, 1901	42.992,768	27.125 280	15,867 468
Ten months, 1900	49,291,648	28,022,176	21,269 472

GERMANY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902	2,712,820	1,274,680	1,438,140
January September	24.828.100	10,200,960	14,627.140
Ten months, 1902	27,540,920	11,475,640	16,065,280
Ten months, 1901	23,818,300	8,902,520	14,915,780
Ten months, 1900	25,021 400	8,699,680	16,321,720

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902	116,160	24,780	91,380
January-September	1,046,540	82,580	963.960
Ten months, 1902	1,162,700	107.360	1,055.340
Ten months, 1901	1,250,920	189,640	1,061,280
Ten months, 1900	1,260,600		

FRANCE.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902	786,060	776,380	9,680
January September	12,490.940	7,549 960	4,940,980
Ten months, 1902	13,277,000	8 326,340	4,950 660
Ten months, 1901	13,593,300	8,601,120	4.992.180
Ten months, 1900	13,687,080	8,686,260	5.000,820

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
October, 1902	181,940	1,100	180,840
January September	1,997,380	11,220	1,986,160
Ten months, 1902	2,179 320	12,320	2,167,000
Ten months, 1901	2,207 480	25,080	2,182.400
Ten months, 1900			

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. Italian, French, and Austrian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

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"GUTTAPERCH, TORONTO."

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SOLE MANUFACTURERS IN CANADA OF

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"Eureka," "Paragon" and other High Grades Cotton Fire Hose.

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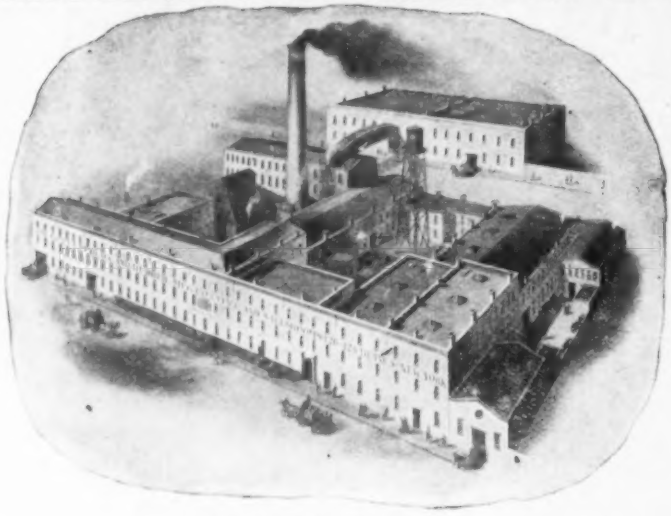

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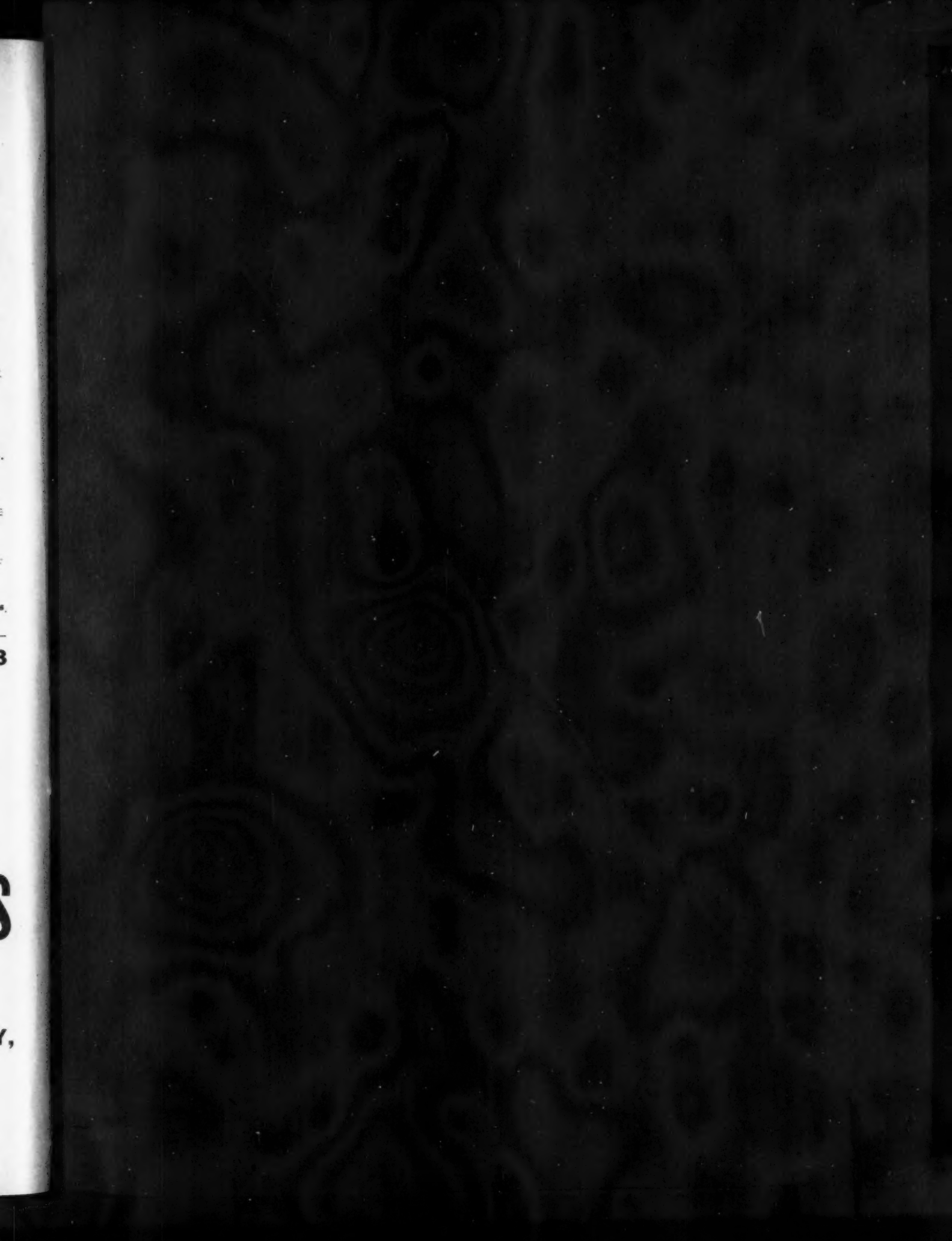
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